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ABSTRACT

The collection consists of selected convention papers from the 1969 convention of the Council for Exceptional Children. Included are both abstracts of articles and complete articles. Nine items on the gifted and 13 on learning disabilities are presented but may also be obtained separately in EC numbers 006 169 and 006 168 respectively. A broad scope of discussions are presented concerning behavioral disorders (12), communication disorders (11), early childhood education (5), mental retardation (21), the physically handicapped (5), visually handicapped (3), administration (7), general sessions (5), international relations (4), research reports (12), special issues (10), and one on teacher education. (JM)

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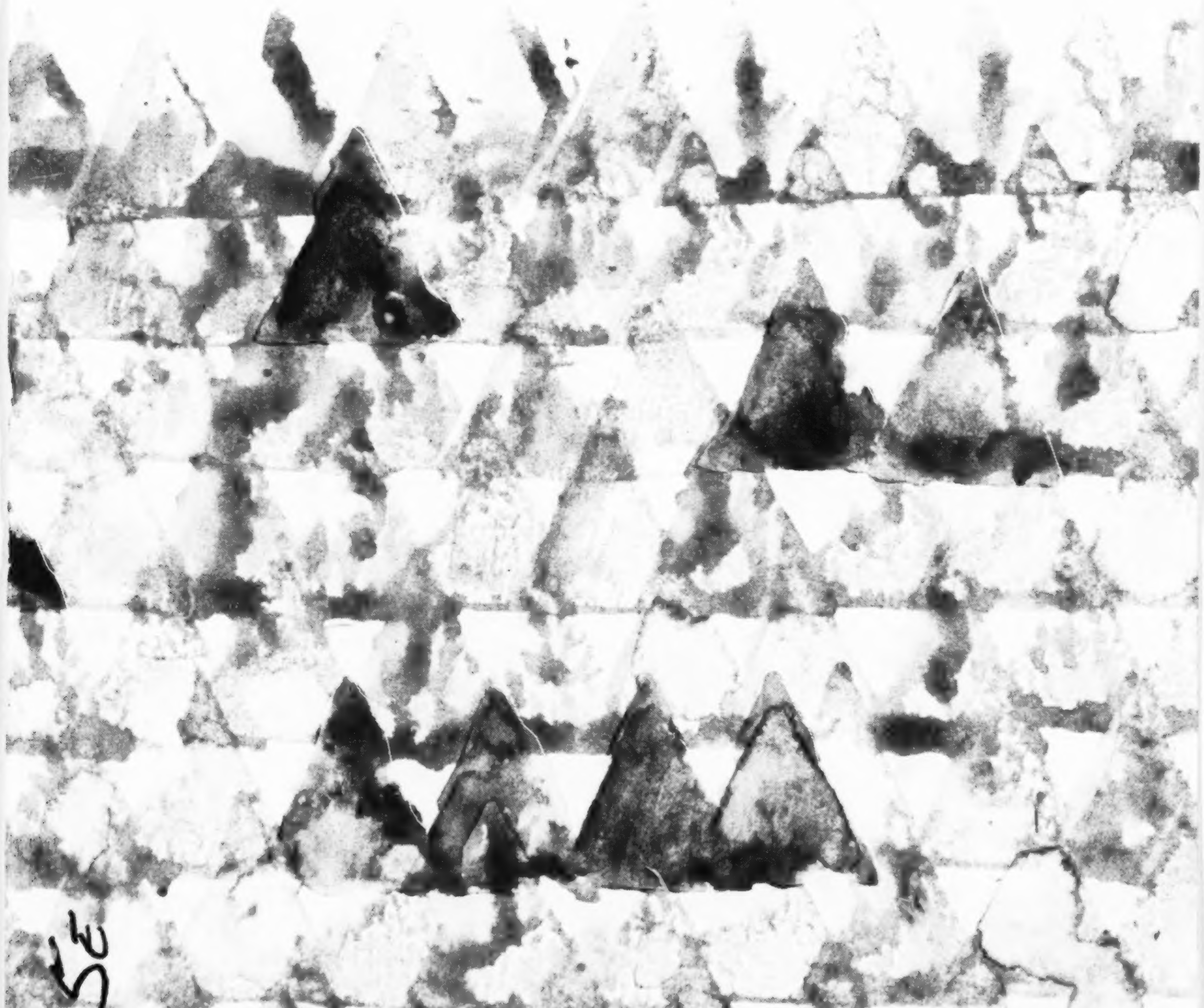

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SELECTED CONVENTION PAPERS

47th Annual International Convention

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April 6-12, 1969

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The Council for Exceptional Children

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A CREATIVITY SCORE FROM THE STANFORD-BINET AND ITS APPLICATION

by

Catherine Bruch

Despite the fact that the Stanford-Binet (L-M) is assumed as an intelligence test not to measure creativity, certain items on the test may have components of what Guilford (1967) considered factors relevant to creativity or to creative problem solving. Guilford considers that all divergent production factors, all transformation factors, cognition of units, systems, and implications, and evaluation of implications have creativity values. The creativity score which may be derived from the Stanford-Binet is based upon an adaptation of these Guilford factors.

Description of the Creative Binet

Rationale. A method for analyzing the Stanford-Binet items according to the Guilford Structure of Intellect components has been logically determined by Meeker (1969, in press). Meeker has specified for each Binet item its Structure of Intellect factors. While not all Structure of Intellect factors are represented in the Binet, eight divergent factors, five additional transformation factors, two factors involving cognition of units, three factors involving cognition of systems, two factors of cognition of implications, and one factor of evaluation of implications may be found. Using the Meeker analysis system, those factors described by Guilford as relevant to creativity were reweighted in a systematic fashion giving higher creativity values to items composed of a higher ratio of creativity components and zero creativity value to items having no aspects of creativity. Thus, a creative score was devised for each item on the Binet giving a proportionate value to the creativity in the item.

Scoring. In the scoring of the complete Creative Binet all items are considered and weighted for creativity. A total creativity score is derived which may be converted to a creative age score. The creative age is then compared to the mental age to determine whether a subject has a creative age greater than his mental age or a creative age less than mental age. Higher positive values identify high creatives; higher negative values are assumed to differentiate low creatives. If such comparisons are made, it is hypothesized that the high creative subjects should be able to perform more effectively in creative problem solving tasks than the low creatives.

As yet, no statistical cut point for high or low creativity values (plus or minus months of creative age) has been established. A score of approximately plus or minus five months is suggested for designation of high and low extremes in a group. The range in current data has been from +36 months to -16 months of creative age.

On the abbreviated form of the Creative Binet only approximately two-thirds of the Binet items are considered. Those items having greater creativity score values remain in the abbreviated form.

An abbreviated mental age and IQ may also be derived when one uses only the abbreviated form of the Creative Binet. That is, if for research purposes an investigator wishes to use this abbreviated form of the Binet, it would be possible for him to derive not only a creativity score, but also the usual mental age and IQ. Abbreviated IQ's show a tendency to be slightly higher than regular Binet IQ's, however. The reliability of the abbreviated IQ, computed from 200 cases across all age level ranges, is reasonably consistent. The abbreviated IQ correlated adequately at each age level with a complete Binet IQ, predominantly at the .01 significance level with only three chronological age levels correlated at the .05 level.

Only tentative use of the abbreviated form of the Creative Binet is suggested at this time, since further analyses are yet to follow in comparison with the Creative Binet. The probable value of the abbreviated form lies in its function of pointing out the extremes of high and low creatives; it is less reliable in the middle ranges.

Current Research Results

A variety of studies are underway attempting to assess the validity of the Creative Binet as a measure of creativity, or creative problem-solving ability. Needless to say, this is a difficult task since the measurement of creativity is in itself such a controversial issue. As the originator of the method for scoring the Binet for creativity, the author has sought and continues to seek interested investigators who will assist in providing both normative and validity data. The creative Binet is still in experimental stages, and is offered simply as an experimental instrument. Results of several small studies are given here. These results are brief, since full publication of the studies at a future date will contain elaborations of details.

Clinical validity. In the initial case study data on the Creative Binet, observations were made which suggested that persons who scored as high creatives would tend to have higher self concepts, productive coping powers, greater independence, more flexibility, and similar traits. Low creatives were observed to have opposite characteristics. Such characteristics for the high creatives would have been expected from the literature on creativity.

In order to test the validity of the clincial inferences that high creatives would show higher self concept, coping powers, independence, and flexibility than the low creatives, a study was designed in which 13 school psychology trainees were each asked to select from their recent Binet protocols at least 3 high creatives and 3 low creatives according to the clinical descriptions. These protocols were then scored on the Creative Binet to determine whether the direction was positive (creative age greater than mental age) or negative (creative age less than mental age). No limitation of ability was specified for selection, since the Creative Binet is intended to measure how effective a person is in creative problem solving abilities as compared with his overall mental age. Seventy-seven cases were considered, ranging in chronological age from 3 years, 4 months to 17 years, 9 months. IQ's ranged from 71 to 149. Chi square procedures were used. Results indicated that:

1. In the prediction of both high and low creatives, school psychology trainees predicted accurately in 60 percent of their choices. They predicted with an accuracy of 69 percent in the higher ability group (IQ score 110 and above). Chi square (4.01) was significant at greater than the .05 level of probability.

2. The greatest degrees of accuracy of predictions were found in predictions of high creatives of the higher ability level (78 percent accuracy) and of low creatives of lower ability (83 percent). Chi square (14.52) was significant at

greater than the .001 level.

It was concluded that the clinical descriptions of high and low creatives as given by the author appear to be reasonably consistent, especially in the cases of creative students with higher ability and less creative subjects of lower ability.

In a smaller study within the larger study two school psychology trainees attempted to determine high versus low creativity primarily upon the basis of statements relating to high versus low self concept. All of the high creatives were in the IQ score range from 125 to 141 (N = 5); IQ's for the low creatives ranged from 90 to 109 (N = 7). High creatives were predicted with 60 percent accuracy, and low creatives predicted with 71 percent accuracy on the basis of the primary criterion of high or low self concept. No statistical significance level was computed.

Should further studies confirm this general tendency for creative scores to indicate consistent patterns of clinical interpretations, the Creative Binet may possibly become a valuable objective instrument in clinical ratings.

Validity as a measure of creativity. In a study involving 102 children three through six years of age, correlations between the creative age on the Creative Binet and the Figural tasks of the Torrance Tests of Creative Thinking were little different from correlations of Mental Age with Torrance Tests. When the effects of Mental Age were partialled out, no correlations were significant. With chronological age and with sex added as constants, the partial correlations remained nonsignificant.

Examination of these data using rank order correlations for individual class groups and correlated separately for boys and girls had shown previously that the class groups differed on pre and post Creative Binets. Analyses of variance (ANOVA) were therefore computed, with creative age as the dependent variable. Pre (1967) and post (1968) Creative Binets were analyzed for 2 younger (CA 3 and 4) and 2 older (CA 5 and 6) class groups by sex and by teacher. MA, CA and IQ were covariants.

Interactions significant (.05 or .01) in the older group were MA and sex X teacher (1967), MA and teacher (1968), and IQ and sex X teacher (1967).

A comparison of the 1968 adjusted means showed that the teacher differences were in opposite directions. That is, in one class group, when the effect of mental age was removed, the mean creative age increased (+1.47 months) while in the other class group the mean creative age decreased (-1.53 months). Continuing analyses of these data will follow in order to interpret the other interactions. These data suggest that the Creative Binet was sensitive to differences between the two older class groups in their abilities to function in the tasks designated as creative problem solving.

Further studies will proceed to examine and refine the Creative Binet. The leads furnished thus far from this instrument indicate that it is of current value in pointing out through a simple rescoring method the extremes of cases of high and low creative problem solvers. It is also sensitive to differences in creative thinking between groups.

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ABSTRACT

EFFECTS OF CLASSROOM ANXIETY ON CREATIVITY

by

Don J. Hadley

Since the development of the creative process is at present suggested to be an important function of the American school, factors which may influence creativity development and production have become of special import. Although experimental evidence is sparse, it has been suggested that anxiety level may bear a relationship to creative production. The purpose of this study was to investigate the effects of two general levels of classroom anxiety on creative production of a sample of seventh and eighth graders.

Creativity, test anxiety, and intelligence measures were administered to 201 seventh and eighth graders under "neutral" classroom conditions. The students were then assigned randomly to two experimental groups, designated "anxious" and "relaxed." Equality of the two groups on all premeasures was established. Six months later the creativity battery was again administered, to the anxious group under simulated anxiety inducing classroom conditions and to the relaxed group under simulated anxiety reducing classroom conditions.

Comparison of mean change scores of the groups indicates greater improvement by the relaxed group on the battery total and on eight of nine subtotals computed. These improvements are significant at the .01 level on six of the eight as well as on the battery total.

The results demonstrate that in addition to the anxiety which may accompany children to the classroom, that anxiety introduced by the classroom--and the teacher in particular--can detrimentally influence creative production. The importance of the teacher in keeping classroom anxiety at a manageable level is evidenced.

ABSTRACT

A FOLLOWUP OF SIXTH GRADE REGULAR AND SPECIAL CLASS GIFTED

by

Roy H. Schreffler

Grouping for instruction has been, and continues to be, a problem for educators. Homogeneous grouping as a provision for the intellectually gifted has been practiced for about 40 years; but the results of attempts to determine the value to the students of this practice, although many times positive, have not been notably convincing of its merits.

Mounting dissatisfaction has been expressed in regard to the practice of using IQ scores as the primary basis of special groupings. A number of other qualities have been shown to contribute to success in school and in other valuable areas of human endeavor. In particular, the recent attention to the creative aspects of giftedness has opened a new area for exploration before the implications of existing research have attained any degree of universal acceptance. Additional consideration must be given to the resolution of issues in traditional approaches in the education of the gifted.

The purpose of this investigation was to determine whether the benefits of a year's participation in sixth grade major work classes would have positive academic value during the subsequent secondary school years. Interrelationships of personal and social factors with high Binet IQ also were studied.

A year's experience at the sixth grade level in special class for high IQ children resulted in better scholarship, as indicated by marks subsequent to that experience. In addition, from the data it was concluded that the subjects' knowledge that they possessed high ability may have resulted in improved classroom performance regardless of the instructional arrangements. Also, the possibility that the secondary teachers may have been influenced in assigning grades by their knowledge of the student's special class participation cannot be overlooked. Some teachers later reported being overly severe on that account, but others may have been overly generous.

The relatively high initial school performance of the children considered pseudogifted in this study was not maintained in competition with bypassed high IQ children who showed few early signs of their superior intellectual endowment. Bypassed high IQ children would, most likely, be missed in a less than determined effort to test all children selected by a screening program, but their undetected presence in regular classes could contaminate the results of studies of achievement. In the present study this group most likely to be bypassed was composed largely of boys who reported at grade twelve that they frequently did not apply themselves to tasks which were not intrinsically interesting to them.

Individual scores on standardized achievement tests were shown to be influenced less by the type of school program encountered than by intelligence, as expressed in Binet IQ, and an unidentified factor existing prior to fourth grade.

The results of the study suggested that research attempting to demonstrate gains from school practices should involve measures other than the results of standardized achievement tests. The instruments used should reflect the specific objectives of the special class. The specific goals of such programs, as identified in the description of the special class, are different from those expected for children across the intellectual range and for the nation as a whole. Therefore, tests developed for average students across the nation should be used only to assure that the special class student meets the minimal expectancies of the program. Special evaluations of student performance relative tothe specialized objectives should be planned additionally.

The results of the standard tests were highly related to intelligence and suggested that children seem to increase at a relatively constant pace in any program except, in all probability, those of extreme inadequacy.

The importance to achievement of high IQ, as stated by Cox (1926), Goddard (1928), Hildreth (1938), and Ward (1961) was significantly demonstrated in the results of the present study. An individual's possession of high Binet IQ seems to be sufficient reason in itself for his inclusion in classes for the gifted.

The thorough identification in this study of the greatest possible number of qualified (high IQ) children meets the objection, frequently voiced in reference to Terman's group, of inadequate case selection. Yet, within the framework of the present study's more limited scope and different area under investigation, there was no suggestion in the data that Terman's (1925-1959) portrait of the gifted was, in any significant way, in error. The majority of the study's high IQ children possessed desirable qualities in abundance.

Patterns of personality, intelligence, and achievement by sex were not markedly different, but did vary in the directions as suggested in prior research. The boys were somewhat higher in mean IQ, and a slightly higher percentage of high IQ boys existed in the group. The girls were higher in reading speed and grade getting qualities during the elementary school years, but otherwise showed little difference.

It was found that teachers do not grade children in accordance with subject mastery but according to the relative capacities of the class groups being taught. With the special class group removed from the regular classrooms the average marks of the pseudogifted and remaining high IQ children increased.

Since it has been shown that intermediate level special classes for high IQ children were associated with better scholarship and positive personality traits, the establishment of such classes should be encouraged. Children of high Binet IQ should be included in such classes regardless of prior achievement as indicated by earned marks.

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ABSTRACT

A HOLISTIC CONCEPTION OF CREATIVITY AND ITS RELATIONSHIP TO INTELLIGENCE

by

Webster R. Callaway

There are two main schools of thought in the realm of creativity research; namely, the holistic and the atomistic schools. The focus of this study is the examination of the relationship between a holistic conception of creativity and IQ. One of the fundamental distinguishing features of the holistic position is the assumption that a valid and fruitful approach to the study of creativity must be derived from the life and work of unquestionably creative individuals. Criteria are developed by ascertaining common personality characteristics among creative people and by analyzing the process of significant and unabridged creative acts. The complete creative act, as depicted by those who have probed its process as well as by the subjective analysis of the creators themselves, is seen to involve much more than "divergent thinking." Socially useful creativity demands the synergistic cooperation of the entire personality, including all physical mechanisms and modes of thought. Affective and conative dimensions are as essential as the cognitive ones.

For the total group of 180 bright eleventh grade high school students and for the girls and boys considered alone, the hypothesis was accepted that six personality attributes (originality, social maturity, complexity, estheticism, theoretical orientation, and thinking introversion), selected from the OPI scales as being possible causative factors in creativity, would be positively correlated with IQ. The correlations were higher for the girls in every case than for the boys.

In comparing the high and low IQ groups on the six personality dimensions, it was found that the high IQ groups were significantly higher (.05) in every case when comparing the total sample and when comparing the girls only. However, in considering the boys alone, there was no significant difference between the high and low IQ groups in the case of theoretical orientation, although the association in this case was also positive.

Findings

1. A positive relationship between each of the personality variables and IQ was found (r varied between .18 and .34).
2. The relationship between the personality variables and IQ was higher for the girls than for the boys (for girls r varied between .25 and .40; for boys between .12 and .29).
3. For all three groups, total and boys and girls considered separately, the personality variable most closely related to IQ was originality, while the personality variable least related to IQ was theoretical orientation.
4. The high IQ group (mean IQ 137) was significantly higher (.05) than the low group (mean IQ 112) on each of the six creativity variables.
5. High IQ boys were significantly higher on the personality variables than low IQ boys with the exception of theoretical orientation. High IQ girls were significantly higher than the low IQ girls on all six personality variables.

ABSTRACT

MEASURING PERCEPTUAL MOTOR ABILITY IN PRESCHOOL CHILDREN

by

William J. Meyer

There is now general agreement that perceptual motor abilities, broadly defined, are required if a child is to achieve academic success during the primary grades. Given the importance of this set of abilities, it seems crucial that children with potential perceptual motor difficulties be identified prior to their entering the typical primary grade program. Unfortunately perceptual motor abilities undergo significant and profound changes during the age period from 5 to 7 years, making assessments during the preschool and kindergarten years extremely difficult.

For example, in a longitudinal study that I conducted while at the University of Pittsburgh we gave the Bender-Gestalt, using the Koppitz scoring system, to some 100 children beginning in September of the kindergarten year and retesting every 3 months through the end of the first grade. Pooling of scores at each of the testing periods resulted in an esthetically attractive developmental curve which had little or no meaning with respect to individual children. A random selection of children from the sample were then analyzed individually. It was discovered that patterns of change on the Bender-Gestalt were extraordinarily individualistic and seemingly unpredictable. Some children performed extremely well in September of kindergarten year, other children looked rather poor for long periods of time and then showed dramatic improvement, and still other children never showed any improvement over the 2 year period. Since that study involved only one component of perceptual motor abilities, it was decided to investigate a broader range of such abilities in an effort to determine if specific patterns of behavior might be indicative of subsequent dysfunction. This paper describes some of our efforts in developing assessment procedures borrowed from Keppart's Perceptual Survey Rating Scale but adapted for preschool children. Specifically we attempted to assess ocular motor control, gross motor control, and related performance on these tasks to a variety of theoretically related behavioral capabilities.

The subjects consisted of 74 children, with a mean chronological age 56.32 months, selected from the Research & Development Center Laboratory Nursery School. These children were predominantly from middle class families.

The following measures were taken: (a) six ocular motor tests (left eye pursuits, right eye pursuits, and pursuits with both eyes; convergence; refixation; starting); (b) the chalk board test involving both performance with one hand and with both hands; (c) the draw a line slowly task which requires a child to draw a line from the top to the bottom of a 8 1/2 x 11" piece of paper as slowly as possible; (d) a preschool achievement test developed for the laboratory school program; and (e) hand preference.

The results of the study include some highly tentative normative data on the ocular motor and gross motor skill task as well as a delineation of the procedures necessary to obtain high interjudge reliability with preschool children. A varimax analysis was performed on all of the measures with the addition of Stanford-Binet IQ, chronological age, and sex. A six factor rotation accounted for approximately 73 percent of the variance. These factors have been tentatively labeled as follows: Factor I appears to involve primarily perceptual motor skills, Factor II appears to be a cognitive styles factor, Factor III appears to be a hand coordination

factor, Factor IV involves gross motor skills, Factor V appeared to be a visual control factor, and Factor VI a visual coordination factor.

ABSTRACT

OPERATION ASTRA: A CURRICULAR QUEST IN DIFFERENTIAL EDUCATION FOR THE GIFTED

by

Virgil S. Ward and Joseph S. Renzulli

The authors indicate how for the first time previous efforts of theirs toward a theory of "differential education for the gifted" are related to more general systems of thought in the fields of developmental psychology and of epistemology which undergird education on the whole.

This effort was one of the long range objectives of Operation Astra, a USOE supported project in the Hartford, Connecticut, region. This aspect of the project endeavor was intended to provide: (a) a rationale for the units of study for gifted children in the elementary school grades, developing concurrently by working teams of university specialists from the arts and sciences, school teachers and professional educators; and (b) a body of theoretical principles supporting an indeterminate, theoretically consistent expansion of studies, differentiated from the main curriculum in the interest of learners with superior experiential and behavioral potentialities.

Four previous efforts toward a theory of differential education for the gifted are identified (Renzulli, 1966, 1968; Ward, 1952, 1960, 1961, 1965). These are related in an illustrative manner to certain concepts from the studies of human development by Jean Piaget, and to a recent epistemological system with special relevance for general education, developed under the rubric of "realms of meaning" by Phenix (1964) of Columbia University.

The ultimate goal of such endeavor is to provide supplementary and derivative studies--distinctive from and parallel to those serving the majority of students, in the specific demands made upon superior present cognitive and behavioral capabilities, and in relevance to the esoteric roles performed within human culture by positive deviants--which reach every distinctively endowed student, at every age level, and in every significant aspect of developmental experience appropriate to general education.

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PERFORMANCE BASED INSTRUCTION: IMPLICATIONS FOR PROGRAM OPERATION AND PERSONNEL DEVELOPMENT

by

William T. Ward and H. Del Schalock

A competency or performance base, field centered (hereafter referred to as ComField) model of a teacher education program derives from the primary assumption that learning facilitators should be able to demonstrate that they are able to perform the functions they are expected to perform before they assume the responsibility for doing so. The goal of ComField is to prepare learning facilitators to be able to perform the various functions required of them in educational settings of the 1970's and '80's. Three steps need to be taken to translate this general goal statement into operational program objectives:

1. The educational context anticipated in the 1970's and '80's must be specified.
2. The functions to be performed within such a context must be specified; for example, managing instruction, contributing to instructional systems development and evaluation, conferencing with parents, engaging in research, curriculum engineering and designing, etc.
3. The tasks to be performed in order to carry out each function must be specified. As used in the ComField model, tasks that teachers are to perform are defined in terms of the outcomes to be realized in the school setting, that is, the outcomes to be achieved through instruction, evaluation, conferencing with parents, etc.

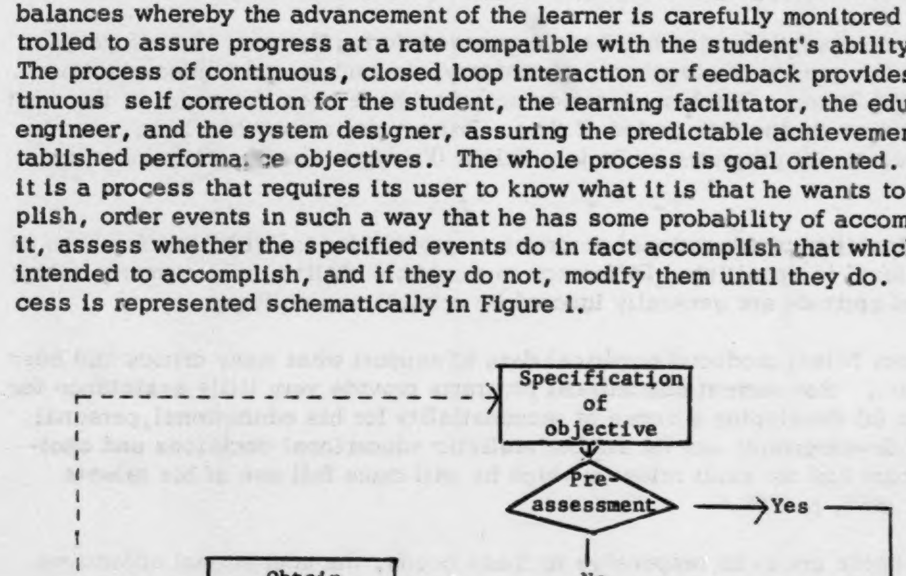
Three assumptions are critical to such an approach to the development of a teacher education program: (a) there can be clarity in and agreement about the nature of learner outcomes to be nurtured, (b) there can be clarity in and agreement about the nature of the conditions that are required to nurture each outcome, and (c) there can be clarity in and agreement about the nature of the competencies needed by teachers to provide the conditions that will nurture each outcome.

The Application of System Technology to Teacher Preparation

The model rests upon a commitment to the methodology of system design. The system design process is based on principles which are concerned specifically with the production of controlled, measurable, predictable, and relevant learner achievements, while applying management principles and techniques for the development of instructional systems which can assure successful performance at all levels.

The system approach to instruction and learning is totally learner oriented. It is primarily concerned with the processes for planning, management, design, production, and implementation of educational programs which start with the statement of relevant performance specifications for student success and finish with objective measures of student performance reflecting the achievement of prestated performance specifications.

Generally speaking, the application of system design principles means that each of the functional parts within the model, as well as the model as a whole, assumes three characteristics: (a) it is designed to bring about a specified and measurable outcome, (b) it is designed so that evidence as to the effectiveness with which it brings about its intended outcome is continuously available; and (c) it is designed to be adaptive or corrective in light of that evidence. This is the case whether the part in question is the total program or a segment of instruction within the program. As such, the model represents a process or way of proceeding. The instructional process applies a closed loop system of checks and balances whereby the advancement of the learner is carefully monitored and controlled to assure progress at a rate compatible with the student's ability to succeed. The process of continuous, closed loop interaction or feedback provides for continuous self correction for the student, the learning facilitator, the educational engineer, and the system designer, assuring the predictable achievement of established performance objectives. The whole process is goal oriented. In short, it is a process that requires its user to know what it is that he wants to accomplish, order events in such a way that he has some probability of accomplishing it, assess whether the specified events do in fact accomplish that which they are intended to accomplish, and if they do not, modify them until they do. This process is represented schematically in Figure 1.



Specification of objective
Pre-assessment
Yes
No
Obtain prerequisites
Activity
Modify objective or the context within which the objective rests
Corrective choices
No
Criterion assessment
Replicate activity
Yes
Realization of objective

FIG. 1. A schematic representation of the adaptive process reflected throughout the ComField model.

By adopting the ComField model, a teacher education program is in the unique position of being able to (a) provide evidence that a teacher is able to perform the tasks that he is expected to perform prior to assuming responsibility for the teaching of children, (b) provide the means whereby schools can become intimately involved in the preparation of persons responsible for their operation, (c) provide the means whereby teachers and prospective teachers can contribute significantly to the shaping of the curriculum that is to guide their professional development, (d) provide the means whereby a college educational experience has personal relevance, (e) provide the support systems needed to carry out such a program, and (f) provide evidence as to the cost, effectiveness, and benefit derived from such a program. It is also anticipated that two "second order" outcomes will occur from a program so conceived: (g) that teachers will develop into independent, self directed, continuing learners themselves, and (h) that the systematization and personalization of instruction will transfer to the education of others. The basic assumption underlying hope for such a long range outcome is indicated in (h): simply that when prospective teachers themselves engage in an educational experience in a way which gives it personal meaning and when they themselves become independent, self directed learners, they above all others will be likely to create a similar kind of learning experience for those they teach.

Extreme dissatisfaction has been expressed during the past 10 to 15 years concerning the quality of preschool, elementary, secondary and higher education in the United States. Teacher education programs have been the target of the most severe criticism during this period of time. Primary deficiency has been noted in present educational programs by Project Talent (Flanigan et al., 1962) and other studies.

The inability of educational programs to provide for individual differences at every age level is appalling. Difference in academic ability, achievement, talent and special aptitude are generally ignored by schools and colleges.

Project Talent produced empirical data to support what many critics had been saying, i.e., "that current educational programs provide very little assistance for students in (a) developing a sense of responsibility for his educational, personal, and social development; and (b) making realistic educational decisions and choices to prepare him for adult roles in which he will make full use of his talents (Flanigan, 1967, p. 28)."

If schools are to be responsive to these needs, the educational objectives must be more inclusive. Such objectives should include planning and preparing for an appropriate occupational role, personal and social development, and those aspects of general education that will help students find deeply satisfying activites for anticipated increases in leisure time activites. Emphasis on learning how to learn, how to think, and decision making is essential.

A look at the current school operation and instructional technique will reveal that it is practically impossible for large numbers of students to achieve that "special combination of skills, knowledge, creativity, attitudes and appreciation to prepare him for the role he selects (Flanigan, 1967, p. 28)."

A number of projects are presently under way to develop models for organizing and operating educational programs at the elementary and secondary school levels. ES '70, Project PLANS, and the multi-unit elementary school are three examples of attempts to provide individually guided educational programs for all students. The development of teacher preparation programs to provide competent personnel to effectively operate these programs is absolutely essential.

The major challenge facing American education in the next decade is one of shifting structures and procedures to accommodate these kinds of criticisms. Complicating the task is the fact that new pressures will emerge within and upon education as time progresses, so that the problems we see now will not be the problems that we see five years from now. It is because of this complicating influence of time that the ComField model for a teacher education program rests squarely upon predictions about education in the future.

To facilitate speculation as to the nature of the educational context in the 1970's and 1980's, we have looked to those agents and agencies who have made it their business to make systematic conjectures about the future and what this means for society and education. The most noted of these are Kahn and Wiener of the Hudson Institute, who have authored The Year 2000 (1967). Bell, chairman of the Commission on the Year 2000, has written working papers for the Commission on the Year 2000, edited the 1967 Summer issue of Daedalus, which was a report of the work of the Commission, and "Twelve Modes of Prediction--A Preliminary Sorting of Approaches in the Social Sciences," in the Summer 1964 issue of Daedalus. Also, Rosove (1968) and others at System Development Corporation, Santa Monica, California, have made this an area of concern.

Rosove has used the methodology of contextual mapping to investigate possible implications of five of Kahn and Wiener's predictions about social and technical trends for society, education, and the roles of educators (Figure 2). Contextual mapping is defined as..."a graphic display of the logical and causal dependencies of functionally related phenomena (Rosove, 1967, p. 3)."

In applying this methodology to five trends projected by Kahn and Wiener, 98 different possible future roles for educators, 101 potential future issues in education, 101 possible educational functions, and 113 implications for education were predicted by Rosove (1968).

From the data generated by contextual mapping, 18 functional areas, three basic organizational concepts, and a generic role concept relative to education were logically derived (Figure 3). Because of the utility of the organizational concepts and the generic role concept for future educational planning generally and the development of the ComField model specifically, the central features of the concepts are reviewed below.

Basic, Long term Trends	Major Subtrends	Social and Technical Implications	Implications for Education	Educational Functions	Possible Future Roles	Major Issues
(Cultural Sector) Increasingly sensate, empirical, humanistic, pragmatic, utilitarian culture.	1A	2A	3A	4A	5A	6A
(Sociocultural Sector) Increasingly sensate, empirical, humanistic, pragmatic, utilitarian culture.	1B	2B	3B	4B	5B	6B
(Economic Sector-National) Transitional, mass consumption society characterized by higher GNP and personal incomes, affluence (among better educated).	1C	2C	3C	4C	5C	6C
(Economic Sector-International) World wide industrialization and modernization.	1D	2D	3D	4D	5D	6D
(Science and Technology Sector) (I Organization) Institutionalization of change, especially through research, development, innovation, and organized diffusion.	1E	2E	3E	4E	5E	6E
(Science and Technology Sector) (II Information) Accumulation of scientific and technological knowledge.	1F	2F	3F	4F	5F	6F

FIG. 2. An EPRSC contextual map (roles).

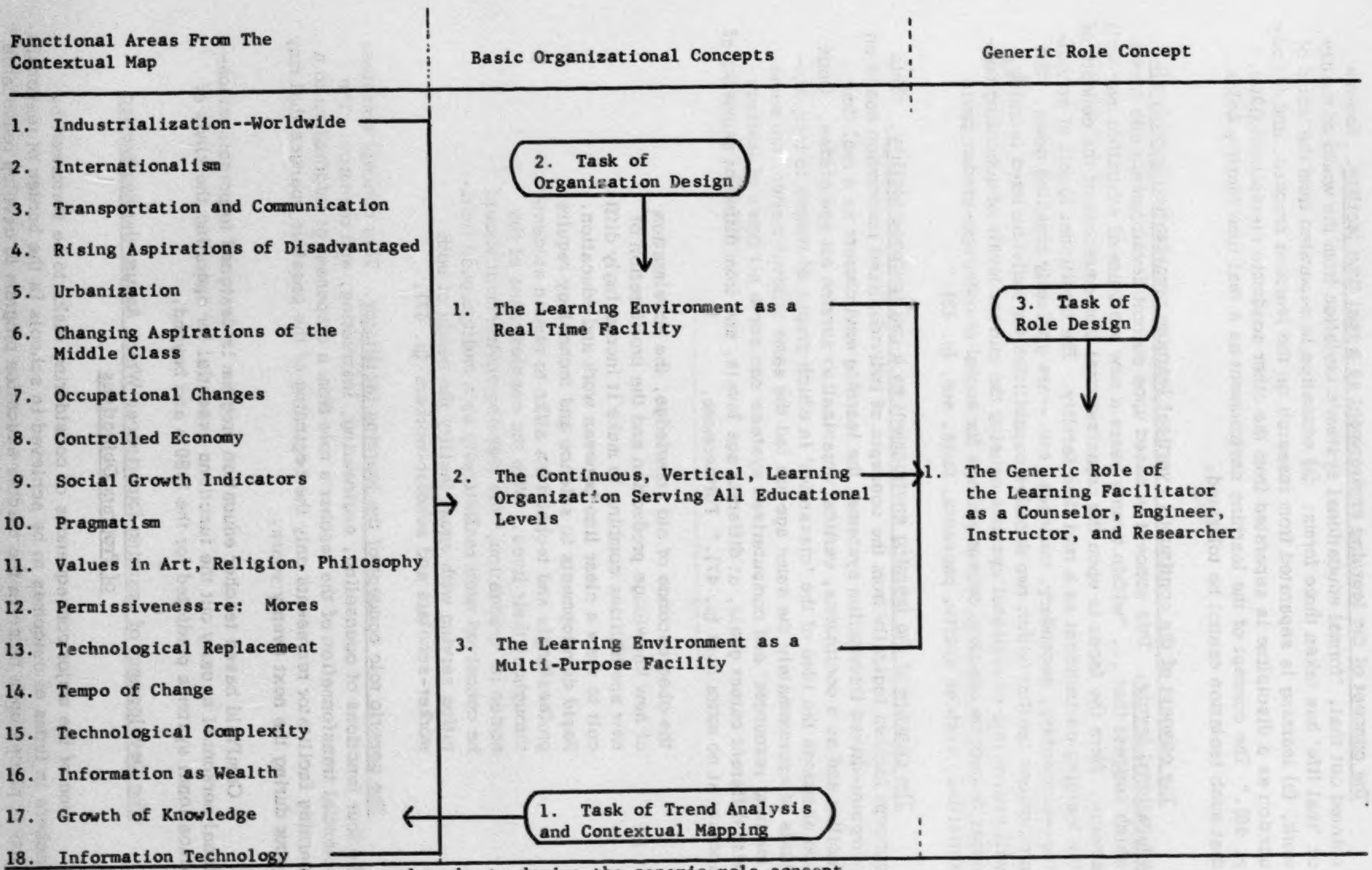

Functional Areas From The Contextual Map
Basic Organizational Concepts
Generic Role Concept
1. Industrialization--Worldwide
2. Internationalism
3. Transportation and Communication
4. Rising Aspirations of Disadvantaged
5. Urbanization
6. Changing Aspirations of the Middle Class
7. Occupational Changes
8. Controlled Economy
9. Social Growth Indicators
10. Pragmatism
11. Values in Art, Religion, Philosophy
12. Permissiveness re: Mores
13. Technological Replacement
14. Tempo of Change
15. Technological Complexity
16. Information as Wealth
17. Growth of Knowledge
18. Information Technology
2. Task of Organization Design
1. The Learning Environment as a Real Time Facility
2. The Continuous, Vertical, Learning Organization Serving All Educational Levels
3. The Learning Environment as a Multi-Purpose Facility
1. Task of Trend Analysis and Contextual Mapping
3. Task of Role Design
1. The Generic Role of the Learning Facilitator as a Counselor, Engineer, Instructor, and Researcher

FIG. 3. Sequence of logical steps and tasks to derive the generic role concept.

The concept of the learning environment as a real time facility. Rosove pointed out that, "formal educational system's isolation from the world of reality or 'real life' has taken three forms: (a) education is separated from the world of work, (b) learning is separated from research on the learning process, and (c) education as a discipline is separated from the other academic disciplines (1968, p. 40)." The concept of the learning environment as a real time facility holds that such isolation cannot be tolerated.

The concept of the continuous, vertical learning organization serving all educational levels. This concept is based upon current developments and trends which suggest that ... "within twenty years a new structure of education may well emerge. Here the focus is upon the organizational consequences of the concept of the learning environment as a real time facility. The traditional levels of schooling--elementary, secondary, colleges, etc.--are gradually breaking down. The predictions are that within two decades capabilities for individualized learning will evolve into educational systems causing the current levels of schooling concepts to become obsolete except perhaps for social or other age-graded group activities, such as sports, pageants, fairs, etc. (p. 43)."

The concept of the learning environment as a multipurpose facility. "This concept follows logically from the concepts of individualized instruction based on computer-drived information systems, the learning environment as a real time facility and as a continuous, vertical organization serving all age grades. Once one abandons the idea of the 'classroom' in which groups of twenty to forty students of approximately the same age are fed the same subject matter, the same 'learning resources' and computerized systems can serve all types of learners with different career goals, at different age levels, and from different segments of society at no extra cost (p. 47)." Furthermore,

> the obsolescence of old knowledge, the acceleration of new knowledge production and the proliferation of new specialities combine to make it increasingly difficult to draw a clear line between work and education. Rapid developments in science and technology require professionals and technicians alike to remain students throughout their lives. With the obsolescence of the notion of 'graduation,' the learning environment should be conceived more realistically as a multipurpose institution serving with equal facility the needs of both worker-scholars and scholar-workers (p. 47).

The generic role concept of the learning facilitator. This concept combines the four functions of counseling, engineering, instructing, and research. The potential transformation of the teacher's role from a dispenser of information to a learning facilitator represents only the beginning of the possible changes that may occur during the next twenty years.

A ComField based teacher education program is designed to prepare educational personnel to carry out the functions essential for operating the kinds of educational systems predicted for the 1980's and beyond.

The Development of Learning Experiences Which Assure the Realization of Program Objectives

One of the major consequences of considering tasks to be performed by teachers in terms of outcomes to be achieved in schools is the burden of responsibility it places upon those in the teacher education program to develop reasonable and valid task specifications. This is particularly critical with respect to the classes of pupil outcomes that are to derive from the educational program because the welfare of children, the community and the nation are at stake. The criticalness of the issue necessitates that the ComField model specifies that a mechanism (an educational objectives commission?) be established at the state level with strong representation from local communities, schools and colleges to work toward the development of a taxonomy of outcomes appropriate to the function of educational systems in the 1970's and '80's. In addition, the model specifies that all decisions as to such outcomes must be reflected against (a) what is known about human development and behavior, (b) what is known about the present social and cultural context, and (c) what is known about the nature of alternative future social and cultural contexts.

After having specified the tasks which learning facilitators are to be able to perform, three steps are involved in developing procedures which will permit the assessment of competence in the performance of those tasks:

1. Specify the behaviors or products of behavior in the target population, i.e., in children or parents or curriculum that are acceptable as evidence of competence in the performance of a given task.

2. The specification of the knowledge, skills, and sensitivities that are needed by teachers in order to provide the conditions outlined in (1).

3. The specification of the conditions by which the knowledge, skills and sensitivities needed by teachers to perform their various school tasks can be developed.

Once (3) is known, it then becomes possible to design and develop the learning experiences that constitute the teacher education program. The sequence of steps involved in the systematic design of a ComField based teacher education program is illustrated schematically in Figure 4.

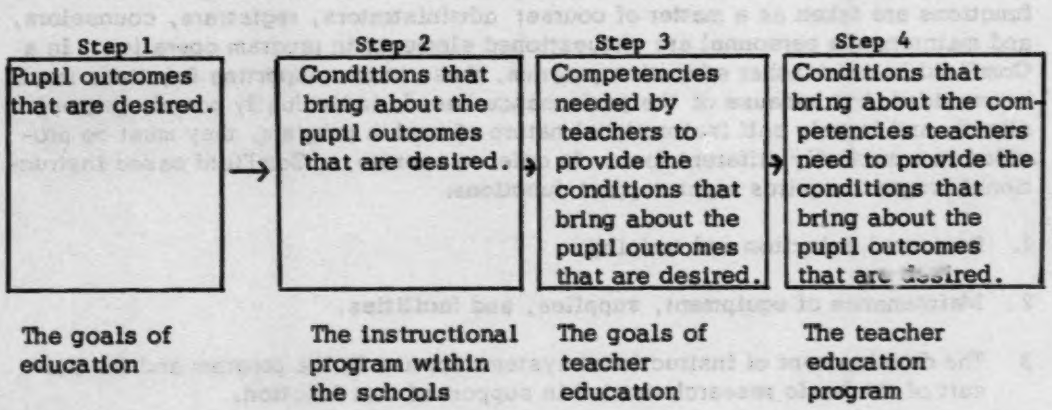

Step 1
Pupil outcomes that are desired.
Step 2
Conditions that bring about the pupil outcomes that are desired.
Step 3
Competencies needed by teachers to provide the conditions that bring about the pupil outcomes that are desired.
Step 4
Conditions that bring about the competencies teachers need to provide the conditions that bring about the pupil outcomes that are desired.
The goals of education
The instructional program within the schools
The goals of teacher education
The teacher education program

FIG. 4. A model to be followed in identifying the curriculum of a teacher educational program.

The Development of Personalizing Strategies which Assure the Relevance of the Program to Those Who are In It

Individual differences in the learning patterns, capabilities and preferences of students in a teacher education program must be more than recognized. One major concern for individual differences focuses on the design of instructional systems with multiple entry points and multiple "critical paths" along which students can move, multiple media forms so that information processing preferences can be pursued, rate of progress through a system or through the full contingent of systems being under the control of the student, opportunity to develop an idiosyncratic teaching style, etc. The personalization of a teacher education program requires a number of additional elements. These include an opportunity for students, within established limits, to:

1. Contribute meaningfully to the design and development of the program.
2. Negotiate that which they wish to take from the program.
3. Negotiate the settings within which the competencies negotiated in (2) are to be demonstrated.
4. Negotiate the criteria by which judgment is to be made about competence.
5. Continuously assess the relevance of the objectives that have been negotiated, and the relevance of the educational experiences being pursued in relation to those objectives.
6. Develop a minimal level of self understanding as a basis against which to make such judgments.
7. Develop an overall style of teaching that is in concert with one's self understanding.

The Development of an Instructional Management System which Assures that the Support Functions Needed to Carry Out Such a Program are Available

Every instructional program has to be managed. In most programs these functions are taken as a matter of course; administrators, registrars, counselors, and maintenance personnel are unquestioned elements in program operation. In a ComField based teacher education program, these same supporting functions must be provided; but because of the performance based, individually paced, personalized, and largely self instructional nature of such a program, they must be provided in a markedly different form. In order to operate, a ComField based instructional program requires eight support functions:

1. Personnel selection and training.
2. Maintenance of equipment, supplies, and facilities.
3. The development of instructional systems for use in the program and the pursuit of the basic research needed in support of that function.
4. Continuous evaluation of the effectiveness and appropriateness of the program.
5. Continuous adaptation of the program in light of its systematic appraisal.
6. The cost accounting of the program.
7. The execution of the program.
8. Maintenance of an information management system that will permit all of the

above to occur.

The relationship between the ComField management and instructional systems is illustrated schematically in Figure 5.

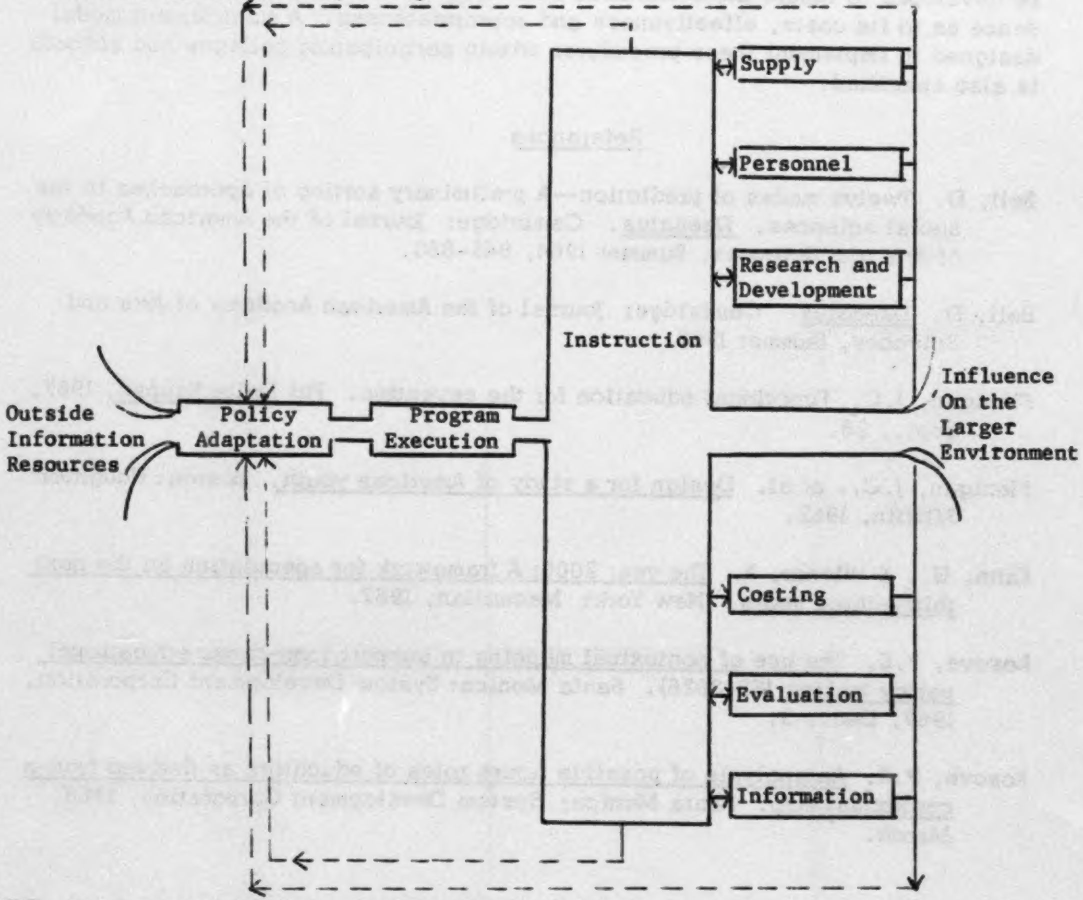

Supply
Personnel
Research and Development
Instruction
Influence On the Larger Environment
Outside Information Resources
Policy Adaptation
Program Execution
Costing
Evaluation
Information

FIG. 5. A schematic diagram of the ComField Management System.

The ComField model of a teacher education program is the produce of a consortium of 26 colleges and universities from the northwest region of the United States working in cooperation with five State Departments of Education, the Northwest Regional Educational Laboratory and the Teaching Research Division of the Oregon State System of Higher Education. The model specifies that each teacher demonstrate the ability, under both simulated and live classroom conditions, to effect changes in the behavior of pupils that reflect the outcomes desired for them. In addition, the ComField model specifies that each teacher demonstrate that he can effectively perform the noninstructional tasks required of him in a school setting, for example, conferencing with parents; that he demonstrate that he can effectively use interpersonal or group process skills to facilitate the application of instructional and noninstructional competencies; and that he demonstrate that he has integrated all professional competencies into a unique and personally relevant teaching style.

Procedurally, the ComField model specifies that "instructional systems" be employed to bring about professional competencies and their personalization; that instruction within these systems be individualized with respect to point of entry into the curriculum, pacing, sequencing, information processing preferences, etc.; and that a computer based information management system be used to handle the frequent and diverse demands upon information created by the above. Two additional procedural requirements are specified: cost/benefit data are to be provided for all aspects of the program, and an adaptive mechanism is to be developed to insure the continuous modification of the program in light of evidence as to its costs, effectiveness and appropriateness. A management model designed to implement these procedures within participating colleges and schools is also specified.

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STRATEGIES FOR MAXIMIZING THE DEVELOPMENT OF TALENT AMONG THE URBAN DISADVANTAGED

by

Joseph H. Douglass

Talent retrieval among the urban disadvantaged is one of the major problems confronting our nation at the present time. Among the many groups who especially suffer talent loss are the Mexican-Americans, Negroes, Puerto Ricans, and the large complement of "native whites" who make up the majority of those classified as the urban American poor. With increasing urbanization and the apparently continuing ghettoization of certain groups of the population, there is little doubt that current overall trends further entrench disparities both along the lines of differentive socioeconomic status and on the basis of ethnic identity.

A large part of this indictment must be laid squarely at the door of the public education system, for the schools more than any other agency in our society are invested with the responsibility of the preparation of the young in terms of their coping and functioning ability levels. For example it is estimated that in this decade some 7.5 million youngsters will drop out of school before high school graduation. And some 80,000 of the youth who drop out each year have IQ's within the top 25 percent of the population--that is, 110 or better. In all probability, that potential will never be tapped.

Some Parameters of the Problem

On all overall basis relatively few school systems throughout the country have instituted programs for the identification of the talented and where such programs do exist they do not begin at preschool levels, continue through secondary level,and go into colleges and universities.

Outside of the academic structure specific programs for the retrieval of talent among the disadvantaged appear to be nearly nonexistent. Job oriented programs, or those concerned with the problems of dropouts, include the talented only as secondary or tertiary aspects of their major orientation. Since the poverty status of such a large proportion of the disadvantaged population demands continuing critical and urgent attention, it is possible that concern with the talented within their ranks is thought of in more or less "luxury terms."

The task often becomes increasingly more difficult since disadvantaged individuals manifest many cultural deficiencies. Also, the devices used as predictors of potential talent, such as the traditional IQ tests, measure only partial aptitude and predict possible academic achievement. Thus, for the poor as well as for the more advantaged populations, these tests do not measure creative potential in nonacademic areas. Limited success in the development and use of so called "culture-fair" tests similarly indicates that no satisfactory method yet has been devised to discover or predict talent potential among individuals who for economic and cultural reasons are not in the mainstream of American life. Further, the present body of knowledge concerning the relationship between aptitude and achievements is sparse indeed. Little is known, for example, about the so called "late bloomers." Other than Terman's Longitudinal studies and a few other isolated analyses, evidence is scarce by which to validate prediction scales of individual achievement. In fact, it appears that most emphasis in talent identification is not based on scientifically reliable methods, but frequently upon factors such as teacher awareness and assessment of an individual's potential.

On the other hand, many newer experiments and projects for the disadvantaged, although oriented largely toward compensatory education, show varying degrees of progress in the direction of talent development. Several of these innovative approaches in process throughout the nation hold promise for attacking various aspects of the overall task of optimizing the talents of disadvantaged urban youth and mature adults. Unfortunately, (a) many of these excellent educational programs have been initiated only recently; (b) many fail to reach the larger proportion of people most in need of such assistance; (c) the terms creative, talented, and gifted are not defined clearly for operational purposes; (d) effective methods have not yet been devised for discovering or optimizing definitely the various types and ranges of talent that exist; (e) talent loss is most severe among the disadvantaged because of their lack of exposure to broadening and culturally enriching experiences which would enhance the growth of abilities; and (f) present emphasis is primarily on the expansion of natively demonstrated talent or skill, as defined and accepted by middle class values and not on the deliberate search for and nurture of potential ability.

Frequently, those who could be or are creative or talented in other than intellectual ways are overlooked because they have not performed at above average academic levels or have not had the opportunity to participate in activities in which they have potential capability.

Despite the foregoing circumstances, there is a very large untapped reservoir of talented and creative people within the ranks of the so called disadvantaged. Indeed, it is certain that since this group is about three times as large as the upper middle class population, there are potentially more able children with talent in the nation's slums than in the upper middle class. Projections suggest that about 4.5 million slum children possess above average intelligence as compared to 3.5 million upper middle class children (Davis, 1968). The prospects of these talented persons being identified or having their capabilities nurtured or optimized are minimal under present circumstances in public education. A variety of investigations such as the Coleman Study (Coleman, et al., 1966), the Passow Report (Passow, 1967), and reports of Armed Forces' Qualification Tests (Conner & de Neufville, 1966) certify that those who are disadvantaged are likely to remain disadvantaged.

Therefore, strategies for the identification and retrieval of talent among disadvantaged groups must take into account such conditions as: all of the generally inferior education which the urban disadvantaged group receive in comparison with more advantaged persons; the widespread psychologically and socially depressing environments in which they live and in which, for the most part, they are confined; continuing racial discrimination; and the unavailability or lack of application of innovative strategies for maximum talent development. Present educational conditions and circumstances undoubtedly tend to perpetuate and widen the gap which exists between the "haves" and the "have-nots." As a result the nation is deprived of the creative potential and contributions of which these persons are capable, and the ranks of dependency and other handicapping conditions continue to grow.

Some Approaches

Today, those concerned with possible strategies for maximizing talent among the disadvantaged are asking a number of fundamental questions about matters such as the management and control of schools, the preparation and roles of teachers, curriculum content, class size, the division into yearly grades, the full year and extended use of the schoolroom, and the use of an expanding number of technical instruments already available for effective self instruction. Basically an old question persists: What are schools for? The old philosophy of "education for living" still holds sway in the educational establishments, although the rest of the world sees increasing logic of the point of view of "education as a part of living"--and the differences are more than semantic.

Several authors have written about the difficulties in the so called straddling of cultures between the middle class teacher and the lower class child, the comparative difficulties of mutual conflicts in value expectations, and the critical role of the instructional and guidance staff in making the school experience either a pleasant one or the reverse. Several investigators note that children quickly develop different expectations of success or failure in intellectual tasks and that there is not only interaction between the psychological organization of the child and the method of presentation, but also between the substantive content and the methods of presentation (Kagan, 1967).

Much of the literature now suggests that in attacking the problem of talent retrieval, especially among the urban disadvantaged, a number of steps are necessary in overall strategy. Since, for example, groups such as Mexican-Americans and Puerto Ricans continue to exhibit special difficulties, such as the cultural differences from the general population and the lack of facility in the use of English, special effort should be made to extend and broaden educational programs through greater use of multilingual instruction. The cultural contributions of Negroes and other minorities should be included in regular textbooks and related materials to enhance self esteem and group pride. Relevant materials pertaining to all groups should be included in educational curricula in all parts of the United States.

Innovative experimental efforts to discover and develop talent such as involvement of disadvantaged groups in educational TV programs, plays, street festivals, and art exhibits, should be widely encouraged and developed through the cooperation of foundations, churches, temples, synagogues, fraternal organizations, business, and other groups. The effectiveness of street academies, storefront schools, and writer and film workshops should be evaluated with the view of replicating their best features in large metropolitan communities.

Guidance counselors and instructors are strategic in the development of the self image with which children regard their aspirations and potential. Accordingly, many compelling arguments support the view that the most experienced and unbiased teachers are needed to motivate and develop youths from disadvantaged backgrounds and that the education of such children cannot be left to chance.

Activities such as these represent a wider view of the kinds of talents which we are losing under our present social and educational system. A wider view of educational methodology and the roles of educational institutions must be developed.

Educators themselves admit that the classroom is not the sole locus of education. Parents, teachers, and students alike are beginning to realize that education takes place all over our cities--in front of a television set, in a storefront, in the more active neighborhood libraries, on the playing fields and in the recreation center, in the machine shops that have a training contract, and in the churches which transmit the tradition, culture, and arts of many different groups in America from one generation to the next. It has been noted that

> Today's schools are faced with testing the relevance of what they are doing in the classroom against the relevance of what the student experiences outside the classroom. And there is more total information being pumped into the student's world outside the classroom than there is inside. Also, the degree of competency involved in the tasks and the information that the student perceives outside the classroom have changed (Culken, 1968, p. 6).

Basic Strategy

The basic strategy which we would propose follows this point of view to certain logical conclusions. In a sense we are thinking of enlarging the whole education enterprise to include an entire planetary system of other human activities, just as the Apollo astronauts were able to look at our entire galaxy from an entirely new vantage point. This figure of speech and our discussions are directed at a genuine revision of and new look at traditional educational concepts. We should like to see a system far more flexible and universal than now obtains. We might think of the formal school system as a center and the other facilities as satellites. The relationship of one part to another is always changing, but still it is orderly. It is one system--with room for many kinds of variety.

We would include the young and the old in this educational system. We all have our "teachable moments" and experience educational needs which arise from changing work requirements, from chance exposure to new and fascinating subjects, and from the desire to explore a new field or an old hobby. Would it not be feasible and desirable to have many opportunities for the young and old to learn together? Doubtless, they have much to learn from each other. In many areas, particularly those which are developing from new technologies, adults need new skills and new insights as much as the youngsters and often might learn together with young people to cope with rapidly changing conditions and requirements.

In educational terms, then, we are thinking now about the maximal use of many different institutions to become satellites of the school system. We are looking forward to a system in which it is recognized that education has no rigid and defined horizons, and that the school system should be looked at in the same way: learning should be stopped by no horizons. Brameld (1968), among others, suggested that an approach of this type

> means that the surrounding natural and social environment is constantly utilized as a boundless resource of learning. ...it means a freshly designed model of the 'community school'--not the caricature we now often hear about but one which provides wide, busy, two-way avenues equally traveled in both directions by learners on the adult level and by children of nursery school age upward.

For example, we would like to see a sixth grader who shows an interest in biology and in growing things permitted and encouraged to work in a greenhouse. We would like to see an attitude developed in which that time spent learning in a greenhouse would not be considered as "out of school." We need a system which gives our children--especially the disadvantaged children--exposure to many such ways of working and living.

This concept is difficult to summarize although several efforts are being made in numerous communities and in varying settings. The strategy proposes that, beginning quite early in grammar school, pupils should be given not only numerous field trips but extended periods of learning time in institutions not usually considered schools. These would include places where knowledge is stored, such as art museums, science institutes, and libraries. These also would include places where knowledge is being put to work, such as farms, hospitals, airports, machine shops, sheet-metal works, and construction. Emphasis would be on those places in which some kind of education or learning--or on-the-job training--is under way. Most certainly in this country we should make far better use of those outside institutions which in many cases are doing a superb job in their own areas. It makes no sense to teach typing on old standard typewriters by yesterday's methods when the public school really should contract with the private business school to teach typing and business procedures on up-to-date machines with up-to-date methods. The same is true of the growing class of private trade schools being built up in America, which are completely unlike the old time trade school still with us and which in many ways has become the ghetto of American education.

We should add that children at an early age should visit places where knowledge is being discovered--places of research and scholarship. Here again we have been misled for years by a false idea of the age at which children can really make a contribution or are able to comprehend. (Children have been taught to use the typewriter at ages 3 and 4.)

A number of these kinds of educational experiences are being carried out in our country. In Newton, Masaachusetts, junior high school students go out into the community for learning experiences. One group of young boys went to the home of an author and poet to discuss and to practice writing. They learned not only about writing, but, as some began to produce finished material, they learned about the intricacies of the publishing world involving agents, financing, royalties, and printing.

In Wichita, Kansas, junior high school students volunteered for an after school and Saturday program in woodworking and metalworking. The project was so successful that students had to be put on a waiting list and teachers noted improved attitudes in other class activities on the part of participants.

Dyer Junior High in Bloomington, Indiana, reports a student operated tea room and a program for mass producing small tables and chairs, with academic subjects presented as related to job and life situations (US Office of Education, 1966).

Philadelphia has 220 school-community coordinators, residents of the community which they serve, working to merge school and community interests. San Diego has physical education students from local colleges working as aides in preschool and primary school programs. Members of the disadvantaged community who too often in the past have felt hostile toward the school are being brought into the school as aides (Mauch, 1969).

Some Basic Elements

Many persons would like to see an ideal system designed to foster all kinds of talent at all levels and include the following characteristics:

Great flexibility. A far more flexible total system is required to foster all kinds of talents for all kinds of creativity, fulfillment, and productivity in society. The ideal system takes for granted that we must help children proceed at their own pace, but I believe we often hold back from facing up to the logical conclusion of that philosophy. We must really break up the school itself into small learning groups and provide small modules where one person learns at a time or where pairs or small teams may work together. There must be a far greater degree of flexibility than most persons are willing to imagine--and we grant that it will be difficult to devise new ways of grading or measuring performance.

An early start. Much recent research and experimentation show that generally we tend to underestimate the ages at which children begin socialization processes. We fail to appreciate the ages at which children would like the things they learn to be relevant to the world in which they live. This, of course, is particularly important to retrieving and developing the talent of those who have been outside the walls of a particular part of the larger culture. Among these are the children of rural and urban deprived areas whose abilities are not demonstrated and indeed are barely discernible when the ordinary middle class teacher from the larger culture approaches them in traditional ways with traditional tasks.

We know that the poverty of stimulation of infants and young children may lead to the inhibition of intellectual abilities and emotional capabilities in later life. We should like to see educational specialists sent out to day care centers to undertake early educational activities which we know to be beneficial during early childhood years and to work with subprofessionals and volunteers who are active in these centers. (Not all children are in day care centers, nor should they be.) I should like to see the educational center provide continuing parent education programs for parents and substitute parents (i.e., grandmothers, babysitters). The program might be carried out in the school, the hospital, or the factory, with library facilities providing toys, books, records, and other materials to be used at home.

An early apprenticeship. Generations ago we rightly became agitated about the shameful exploitation of children in factories and in shops. Child labor laws were passed with the best intentions in the world, but some of the great virtues and satisfactions of work perhaps were overlooked. Today there is a growing concern that we have been shortsighted in cutting off children from apprenticeship in the world of work.

It may be said--and with some truth--that there are great dangers in the public school system's becoming too involved in job education. But here again, as in the case of the grammar school pupil, I believe part of the answer is related to exposure. We should have an educational system in which the teenager gets some direct exposure to different ways of making a living, exposure to the world of medicine and to mechanics and to different ways of recreation--from bowling to Bach quartets. We would have no objection to an education which starts a child very early toward his life work, if at the same time that education continues to expose him to the satellite systems which orbit around the world which he will regard as his center. The child and teenager in the ghetto all too often do not see a father figure at work and perhaps see their mother employed only at low paid, back breaking, and demeaning work.

An open system. Traditionally, we have thought of our educational system as an open one--free, public, universal, compulsory--but as we have been called upon to reexamine our schools, we have found that they are, in truth, open only from within. Once within the system--and this requires a very early start--a variety of avenues are open to the individual or to groups of individuals. But entry or reentry becomes a very difficult, if not impossible, procedure for the child who does not fit in at the start, for the youngster who drops out of the system, or for anyone who has not grown up within the system. We need educational procedures which extend to everyone the opportunity of easy access regardless of his previous experiences within, or relation to, the system. Access to the educational complex should be readily available for every person, at every stage of development, from any point within the community.

The Model

As a model, therefore, let us envisage an educational globe or educational center around which orbit a number of satellites, each with two-way communication and transportation facilities feeding into and out of the education center. The educational globe represents the cluster of personnel, materials, building facilities, and support services unique and necessary to the educational processes. Included is the professional teacher skilled in the techniques of working with youngsters, effective in the application of learning theory, adept at identifying and diagnosing individual problems and in recognizing special talents and skills. We have such teachers.

Included is the education administrator--the agent who already is responsible for the operation of the largest enterprise in this country--the administrator who must make the program of each student operable. We have such administrators. Included are the counselors, school psychologists, social workers, and the aides and other paraprofessionals who are beginning to participate in the educational enterprise. Included here also are the materials of instruction, particularly those which allow for the individualization of learning; the books, records, tapes, programs, films--the hardware and software which educational technology and industry make available to us. We have such resources.

The satellites, moving in changing orbits around the center, represent the many resources which are present within the community--medical facilities, hospitals, and clinics; transportation complexes such as airports, depots, and harbor authorities; industrial units; military installations; banks and brokerage houses; institutions of higher education; centers for aesthetic study such as art museums, theaters, and conservatories; recreational facilities, parks, playgrounds, and ball fields; research and development centers; libraries; federal, state, and local government agencies; shopping centers; radio and television stations; newspaper services; and many more.

We have put our educational globe and satellites--in other words, the world we know and live in--in synchronistic motion in order to emphasize the number of possibilities for interaction and the changing patterns of relationships among the component parts of the system and to illustrate the number of combinations and permutations which may be generated to supply optimum educational benefits for the individual, the family, and the community.

I should like to see every student receive maximum exposure to existing opportunities and maximum personal encounter with all facets of the community. This model of education will require more--not less--of the professional educator. Advanced systems engineering techniques will be necessary to monitor the placement and progress of individual students. Counseling services will be expanded and data banks will be maintained of pupil interests, talents, aptitudes, and achievement. Teachers and the rest of the population will need to adjust programs to individuals rather than to approved texts.

Additional aspects of the system include:

1. Redefinition of the range of potential talent and creativity.
2. Emphasis on early identification of talents and on early correction of, or compensation for, pathological conditions.
3. Provision for stimulating environment for infants and young children through child care centers and parent education programs.
4. Maximum reliance on self placement, self pacing, and self evaluation.
5. Expanded and revised concepts of teacher and student.
6. Abolition of grade placements as presently conceived.
7. Freedom of entry and reentry at all ages.
8. Motivation based on interest and appropriate learning experiences rather than extrinsic rewards.
9. Early opportunity to follow special interests and talents combined with early apprenticeship and on site educational experiences.
10. Changed concepts of passing and failing and of accelerated or retarded.
11. Educational experiences which emphasize the affective and psychomotor domains as well as cognitive learning.

12. Experiences which allow divergent as well as convergent thinking.

13. Sensitivity training beginning in early years and providing variety in means of communicating and expressing ideas.

14. Use of systems analysis in plotting and "recycling" individual student programs.

15. Reexamination of present systems of prerequisites and requirements for study.

16. Examinations based on performance to establish entry level when necessary.

17. Use of simulation techniques as well as actual situations to stimulate decision making and responsibility.

18. Individualization of instruction through use of appropriate technology--computer assisted instruction, individual programs, tapes and films, microteaching techniques, programed instruction, television.

19. Reconceptualization of teacher training programs.

20. Maximum involvement of the home.

Some Added Dimensions

As indicated previously, there are many clues regarding talent development, such as those pertaining to stimulation of interests and motivation, and newer discoveries relative to the nature of learning processes, particularly to perceptual abilities and cognitive styles in the early formative years of a child. However, numerous parameters of ego development and personality characteristics of the talented continue to remain elusive. Much more needs to be known regarding parent-child relationships, correlations between aspirations and motivation, and such operational factors as optimal class size, composition, and peer relationship to insure optimalization of talents. Despite the need for considerable research, we have become aware recently that many school difficulties are really not so much intellectual as emotional. Accordingly, all schools must make proper and improved provision for dealing with emotional disorders, mild or severe, for we know that the early identification and treatment of serious trouble may mean the difference between productive and unproductive lives. Some research convincingly indicates that the level of intellectual capability young people will achieve at 17 is already half determined by the age of 4 and that another 30 percent is predictable at 7 years. Therefore, to properly prepare all potentially talented children, special focus should be placed on preschool children in disadvantaged circumstances, in order that they may be able to derive maximum benefit from their entire formal learning experiences.

Companion efforts should be made for the postschool age populations because adult populations also are definitely "salvageable." Through expanded work opportunities and retraining, many special abilities have been discovered and new careers have been opened up to those who never would have found their talents had not the opportunity been provided with the chance to test their skills.

While it is recognized that a national program of total talent development would require a large financial commitment, such an effort should be undertaken, not only as an investment in human potential, but also as a measure by which many social ills may be ameliorated. The long range cost of losing talent potential is probably far greater than the cost of a national commitment to develop high level talent. In addition, the more skillful development and utilization of human resources would not only bolster but also expand the economy while continuously upgrading the levels of living for all Americans.

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TALENT POTENTIAL AMONG THE DISADVANTAGED: THE PROBLEM IN PERSPECTIVE

by

Joseph S. Renzulli

> It seems probable that our society actually discovers and develops no more than perhaps half its potential intellectual talent (Havinghurst, 1961, p. 524).

The decade of the 1960's may very well be remembered as the period in our history when the education establishment began to pay serious attention to the detrimental effects that result from the inferior educational opportunities that exist for a large proportion of our population. Millions, and perhaps billions, of words have been written and spoken in the interests of education among the disadvantaged, and books such as How Children Fail (1966), Death At An Early Age

(1967), and Pygmalion in the Classroom (1968) have literally shocked us into the reality of the urban situation. If we look upon the activities and pronouncements of the sixties as only the first step in a direct frontal attack upon the problem of urban education, then the heightened interest of this decade certainly can be viewed with optimism. But our view should not be blurred by such optimism, for a large gap exists between words and action, and the scattered attempts to "do something" for the culturally disadvantaged thus far represent little more than the proverbial "drop in the bucket" when compared to the great number of youngsters whose day by day school experience is nothing short of an educational and psychological disaster. If, on the other hand, the ground work laid during this decade has not been a false start, then action to correct the well recognized and certainly most crucial problem in our schools remains the challenge and the task of the 1970's.

The purpose of this symposium is to explore tactics that may give direction to the task before us. My remarks will be confined to a brief overview of relevant aspects of the situation as it currently exists. The principal paper by Dr. Douglass will focus on strategies that hold promise for maximizing the great talent potential that lies unidentified and understimulated in the nation's ghetto schools. Our discussants, Mrs. Brown, Miss Jacobsen, and Mr. Yawin, have joined in this symposium because of their diversified experience in working with disadvantaged children and adults. In reacting to Dr. Douglass' paper they will provide us with examples from their own experience concerning "what works" and "what doesn't work" in the education of the disadvantaged. We hope that members of the audience will help make the symposium a success by both asking questions and relating experiences that might provide useful information to those present.

The Nature and Scope of the Great Talent Loss

There can be little doubt that the largest untapped source of human intelligence and creativity is to be found among the vast number of individuals in the lower socioeconomic levels, and particularly among the approximately twenty million black Americans. It would be a monumental task to explore all of the causes that have contributed to our failure to discover, stimulate, and make the most efficient use of this neglected source of talent; however, intensified efforts to overcome this failure are unquestionably based in part on the simple realization that an invaluable natural resource is being wasted daily by a system of education that has shut its eyes and turned its back on the children of the ghetto. The by-products of this waste are plainly evident in the form of unprecedented urban turmoil, unemployment and underemployment, rising crime and delinquency rates, and, most important of all, the human despair that always accompanies thwarted expression and creativity.

What exactly are the dimensions of the talent potential among minority groups, and what will be the costs of further delay in providing opportunities for the expression of such potential? A large body of accumulated research clearly indicates that gifted and talented children can be found in all racial groups and at all of society's economic levels. With respect to family background, Terman's (1925-1959) monumental study of gifted children showed that, in actual numbers, the nonprofessional segment of the general population contains more than twice as many gifted children as the professional group. With respect to racial and ethnic origin, Miles (1954) reports that many high IQ Negro children can be found when looked for in Negro communities. Studies by Jenkins (1948) and Witty and Jenkins (1934) indicate that race per se is not a limiting factor in intellectual development, that Negro children with high IQ's come from a variety of backgrounds; and that educational achievement of highly able Negro children resembles that of other gifted youngsters. In more recent years, the well known works of Hunt (1961) and

Bloom (1964) have called attention to the significant role that environment plays in intellectual development. The massive number of research studies summarized in these works have crucial implications for the role that education can and should play in developing the high potential of youngsters from all races and social classes.

In addition to these studies that are concerned mainly with the older or more traditional definition of giftedness (i.e., giftedness in terms of IQ), a rapidly expanding body of literature that deals with a broader concept of talent development has recognized that children from depressed areas, low income groups, and racial minorities probably represent our largest unmined source of creative talent (Passow, 1966; Torrance, 1968). The importance of identifying and developing creative talents at all levels of society has caused leading philosophers and educators to focus their attention on this problem. In an article entitled, "Is America Neglecting Her Creative Minority" Toynbee (1964) commented:

> To give a fair chance to potential creativity is a matter of life and death for any society. This is all-important, because the outstanding creative ability of a fairly small percentage of the population is mankind's ultimate capital asset, and the only one with which only man has been endowed (1964, p. 4).

In a discussion of the role of creative talents in history, Toynbee was asked if the suppression or nonrecognition of the creative minorities in populations inevitably leads to weaknesses in the structure of society. His dramatic reply calls attention to the crucial nature of the problem:

> It leads to explosions, doesn't it? Why did Christianity secede from Judaism? I suppose because the Jewish establishment of the day didn't handle this awkward situation wisely. Why did St. Francis and his followers not become heretics, but became a new, vital, and creative element in the life of the western Christian church of the day? Because Innocent III and Cardinal Ugolino had the sympathetic imagination to handle them right. I think that attempting to suppress a creative minority is a very dangerous thing to do, because the fact that a dissenting minority arises--and a creative minority, is always a dissenting one to begin with--should lead the establishment to self-criticism, not just to blind opposition. I think the result of the latter is always disasterous (Toynbee, 1967, p. 17).

Realities of the Urban School Situation

In spite of the existence of this vast source of untapped talent, and in full recognition of the benefits that society stands to gain through a systematic investment in talent development, major inequalities of opportunity are still painting a sad picture as we approach the decade of the 1970's. The facts speak for themselves. Although 15 years have passed since the Supreme Court held that separate schools are inherently unequal, almost 80 percent of white students attend schools that are almost all white, and 65 percent of black students attend schools that are more than 90 percent black (Campbell, 1969). The inferiority of existing schools for low income and minority group children has been clearly indicated by studies which show that the longer these children stay in school the further behind they become in achievement, and the wider becomes the gap between what they should know and what they actually can do (Coleman, 1966; Sexton; 1961). Average drops in measured intelligence of as much as 20 points have been recorded as Negro children progress (or perhaps I should say regress) through the grades (Passow, Goldberg, & Tannenbaum, 1967). Little wonder that the dropout rate for these youngsters is more than twice that of the general population and that the unemployment rate for Negro males is more than twice that of white males (Passow, et al., 1967). Other studies dealing with delinquency, level of aspiration, self concept, aggressiveness, alientation, and a host of other variables reveal similarly ominous findings about the current state of the urban school situation (Coleman, 1966; Williams & Byars, 1968 ; Mathis, 1969). Under circumstances such as these, even the most highly able and well motivated students of the ghetto must surely lose faith in a system where the probability of nonsuccess is so high.

In summary, there are some grim statistics associated with the ineffectiveness of our urban schools. At the same time, there is a growing realization that a wealth of talent is lying dormant in these schools, and that the major educational requirement of the years ahead is to devise creative and functional means to identify and make the most effective use of this talent.

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BEHAVIORAL DISORDERS

ABSTRACT

ADMINISTRATION CONSIDERATIONS IN DIAGNOSTIC TEACHING

by

Douglas Prilaman

The success of a diagnostic classroom depends on many factors, one of the most significant of which is the degree of professional autonomy, commensurate with responsibility, that is granted the diagnostic teacher.

This statement eloquently explains the most important factor in determining whether an adequate program of educational diagnosis can be conducted in an elementary school setting. Homo sapiens are not geared toward the delegation of responsibilities to subordinates, and the elementary school principal is no exception. Yet, without some authority to make decisions, the proposed diagnostic teacher will be unable to function properly within the model that has developed. This does not indicate, however, the need for a specific job description, nor a declaration to the school faculty that the diagnostic teacher has carte blanche within the school. It does indicate, however, that the chief officer of the elementary school be aware of and realize the need to pursue a more realistic and worthwhile program of evaluation. This means a major departure from existing practices, practices that are routine, rigid, and often inadequate. This means that the elementary principal will have to:

1. Reevaluate the traditional methods of pupil evaluation.

2. Focus his attention on a major departure from the traditional routines of pupil referral.

3. Rely on the educational diagnostician as the first valuable source of referral.

4. Adjust to the idea that "teacher," properly trained, can perform the diagnostic services necessary for educational programing that are equal to, and perhaps better than, the existing services within the school system or in a variety of clinics, hospitals, reading centers, etc.

5. Provide the leadership that will establish a climate of trust within the school in order that a diagnostician can provide the services requested by the teacher and/or principal.

6. Reeducate and retrain his staff regarding the inadequacy of existing evaluative services and encourage an open mind towards initial acceptance of a unique model of evaluation and assistance, both to the referring teacher and to the child in question.

CULTURAL RETARDATION OR SHORTCOMINGS OF ASSESSMENT TECHNIQUES

by

Edward J. Barnes

The intellectual status of the so called disadvantaged is a topic of widespread interest, as judged by the large body of literature devoted to it. This body of data indicates for the disadvantaged deficiencies in mental ability scores (Scholnick, Osler, & Katzenellenboger, 1968), linguistic performance (Deutsch, 1965), logical reasoning (Leach, 1963), sorting ability (Siller, 1957), abstract problem solving, conceptual learning (Jensen, 1969), abstraction (Findlay & McGuire, 1957), and reading achievement (Scholnick, et al. 1968). No doubt, this list of deficiencies could be extended to include a number of other measured cognitive functions. The term disadvantaged is defined variously by different writers. It refers principally to those who are victims of social, economic, ethnic, and racial discrimination: Black Americans, American Indians, Mexican Americans, and Puerto Ricans (Beck & Saxe, 1965). Black Americans constitute by far the largest racial minority in this country, and in 1965, 53.50 percent of all black Americans were classified as poor (Billingsley, 1968). Thus the designation disadvantaged refers mainly to black Americans.

For many years the level of general intelligence of the black American has been the focus of attention of psychologists of various persuasions, ideologies, and orientations. It is now a subject with a vast literature (Dreger & Miller, 1960, 1968; Pettigrew, 1964; Shuey 1958, 1966). The great bulk of this research finds most blacks scoring lower on IQ rests than most whites. These findings hold for preschool, school, and college populations. The same trend is found on the Armed Forces Qualification Test for a large sample of black males between ages 18 and 26 (U.S. News and World Report, Oct. 17, 1966).

It is noted that these findings are not confined to economically depressed blacks. Blacks not only have lower tested average IQ than whites, but they also contribute disproportionately to the mentally retarded population. Heber (1968), on the basis of existing evidence, estimated the prevalence of children with IQ's below 75 by socioeconomic status and race. He found that IQ's below 75 have a much higher incidence among black than among white children at every SES level.

Thus the fact of lower tested performance of black people seems established. The critical issue concerns the interpretation of this finding. Numerous explanatory hypotheses are adduced in the studies reported in the literature. These explanatory attempts fall into two classes: genetically and environmentally based hypotheses. The two categories are not mutually exclusive. The conflict between these two positions revolves around the relative contributions of heredity, on one hand, and environment, on the other, to intelligence.

An extreme hereditarian position, designated the scientific racist position (Pettigrew, 1964), is overtly held by a small fraternity of American psychologists: Garrett, 1961; McGraw, 1931; McGurk, 1951; Shuey, 1958; and Tanser, 1939.

Shuey's (1958) unhesitating interpretation of research showing that most blacks score lower on IQ tests than most whites, as evidence "for the presence of some native differences between Negroes and Whites, as determined by intelligence tests (p. 318)," is illustrative of this position.

Jensen (1969), the latest proponent of the scientific racist position, after a selective review and a sophisticated analysis of relevant research, concludes that genetics contribute 80 percent of the variance between black and white groups on standard measures of intelligence, while environment contributes about 20 percent.

Environmental explanatory hypotheses do not assume predetermined development nor do they assume that "intelligence will unfold 'naturally' with gene-determined anatomical maturation, barring extreme interference from the environment (Pettigrew, 1964, p. 108)."

This position does not deny a strong genetic contribution to intelligence, a fact accepted as well established by twin studies. Pettigrew (1964) observes that this position

> views intelligence in much the same way longevity is now regarded. A strong hereditary component is recognized in longevity. Consistently long or short spans typify many families. Yet, despite this component the life expectancies at birth of Americans have almost doubled in the past century. Better medical care, better diets, and a host of other environmental factors converge to enable Americans to make fuller use of their longevity potential. Likewise the modern view of intelligence holds that we have not begun to expand our phenotypic intelligence even close to our genotypic potentials (p. 108).

If environment means any influence which is not genetic, it covers a broad range of phenomena indeed, influences operating before, during, and after birth. Environmentalists vary greatly in terms of which environment is focused upon. Modeled upon the lead from the research of Klineberg (1935) and others in the 1930's, which seriously called to question the racial inferiority explanation for poor average performance of black people on IQ tests, it has become popular to explain such performance in terms of general environmental disabilities; explanations emphasizing patterns of environmental conditions as the cause of depressed IQ scores and ability to learn--economic status, job discrimination, substandard housing, poor nutrition, parental apathy, father absent from the home, incomplete family, quality of early mother child interaction, etc. The most recent version of the environmental position subsumed under this general rubric is cultural deprivation.

As Kenneth Clark (1965) observes, the cultural deprivation hypothesis is seductive. It is consistent with the trend of thinking which apparently is ascendant in contemporary social science, and is a strong argument against the racial inferiority hypothesis. Nevertheless, the plethora of cultural deprivation theories must be subjected to close scrutiny to see whether they do account for the depressed functioning of black people on tests of general intellectual ability. A critical consideration concerns the mechanism by which environmental variables are transformed into cognitive deficits. If the level of hypothesizing remains at the level of the black individual, the black family, the black community, etc., and does not begin to deal with the forces in the larger society responsible for creating these conditions, then, as Clark observes, contemporary social deprivation theories may merely be substituting environmental immutability for biologically determined unmodifiability.

It is the contention of this paper that another source of variance in test scores of disadvantaged individuals in general, and of black Americans in particular, has been largely overlooked or treated in a cursory fashion, and that this source of variance calls into question the validity of the data for which various theories are being called forth to explain.

The two positions discussed above implicitly or explicitly assume that the test results obtained from the disadvantaged represent a valid state of affairs with respect to ability at that point in time. The genetic position goes farther and states that these tests results represent intellectual potential as well. The environmental position would argue that the score does not reflect fixed ability, but reflects the individual's position, status, and life conditions in the society and if provided the proper experience the tested ability can be raised.

The position of this paper is that forces are at work which undermine the validity of these test results, assuming that the validity of an IQ test rests on its ability to predict criteria with some degree of accuracy. In other words, the test scores often are not reflecting an adequate picture of present status nor of potential. The factors contributing to the invalidity of test scores of the disadvantaged may be subsumed under the heading "critical issues in the testing of disadvantaged minority groups" and they have both psychometric and social aspects. The sine qua non of any test is its validity. Any factor which reduces the validity of a test contributes to its shortcomings. The following is an analysis of factors which adversely affect the test scores of the disadvantaged. On the basis of the following arguments it is concluded that much of the variance of test scores of the disadvantaged can be accounted for by these shortcomings in techniques of assessment.

Factors Influencing Test Validity

Concept of intelligence. The concept of intelligence on which a given test is constructed can be a basis for its invalidity. The concept of the nature of intelligence determines, in large measure, the kinds of behaviors tapped by the various test items. If the concept is extremely narrow it may omit behaviors which are predictive of or relate to performance on a given criterion. If the particular sample of behaviors encompassed in the test are related to a criterion, but behaviors not included are also related, and the sample of behaviors favor one group over others, then the test may well predict accurately for the one group but not for the others.

Intelligence has been defined as the ability to learn, to profit from experience, to adapt to novel situations, to acquire new modes of responses, and to carry on abstract thinking. Definitions of intelligence may be placed on a continuum from narrow to broad. For example, there is a considerable difference between Binet and Simon's (1961) definition of intelligence as "the sum total of all those processes which consist in mental adaptation," and Wechsler's (1958) definition as "...the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment." A test based on the latter concept would tap a greater variety of behaviors than one built on the former, provided the various domains are adequately sampled. A larger sample of functions should insure a larger pool of experiences common to a more diverse collection of people thereby increasing the probability of predicting accurately for a greater number of groups.

It is generally accepted that current IQ tests have a middle class bias, meaning that the behaviors tapped, content of items or their style, or any combination of these dimensions intersect to a greater degree with white middle class experience. If this is, in fact, the case, then these tests should be less successful in predicting criterial performance for the disadvantaged generally and for black Americans in particular, unless the criterion is infested with the same bias contained in the tests. It is also known that the American public education system contains a middle class bias, thus IQ tests or tests of general ability should predict scholastic achievement fairly accurately for both advantaged and disadvantaged pupils. However, if a learning situation can be devised which does not encompass the biases inherent in the tests and in the education system, then scores from these same tests should not predict performance in that learning situation for disadvantaged youngsters. What do we find? IQ scores do predict scholastic achievement with fair accuracy for both white middle class and black, poor youngsters (approximately 25 percent better than chance). However, in a situation requiring associational learning (various forms of auditory digit memory, learning the serial order of a number of familiar objects or pictures of objects, learning to associate pairs of familiar objects, the free recall of names of objects presented in random order, etc.) disadvantaged youngsters perform much better than their IQ test scores would predict. In fact they do as well as white middle class youngsters with superior tested intelligence (Semler & Iscoe, 1963; Zigler & DeLabry, 1962; Zigler & Kanzer, 1962). One investigator has found that disadvantaged children in the tested 60-80 IQ range "...do markedly better than middle class children who are in this IQ range. Above about IQ 100, on the other hand, there is little or no differences between social class groups on the learning tasks (Jensen, 1969, p. 112)." At the lower IQ range the superior performance of the disadvantaged children over the middle class white children on the learning task suggest that the formers' intellectual ability was underestimated by the test scores. Thus arises a seeming paradox: depressed mental ability scores without a corresponding deficiency in ability to learn.

It might be tempting to explain this lack of predictive validity by analysis of the type of learning demanded--the simplicity of learning tasks may be responsible for failure to find a relationships between learning and mental ability scores. Perhaps more complex or abstract tasks might reveal a relationship, since conceptual learning and abstract problem solving are held by some to be the essence of intelligence (Jensen, 1969). A recent study by Scholnick, et al.(1958) did not find a relationship between IQ and performance on a concept identification task for advantaged and disadvantaged five and eight year olds. This study manipulated motivation by offering tangible rewards and insured comprehension of instructions by providing a practice problem. The findings suggest that a test performance deficit may reflect a number of things other than inability or lack of necessary intellectual power to perform the necessary operations.

Typically IQ tests place emphasis on what the testee can do rather than on what he can learn. An implicit assumption in this position is that he has had opportunities to learn equal to others with whom he is compared, and if he cannot perform a given task on an IQ test, this reflects an inability. Given the nature of the life conditions of the disadvantaged child, perhaps IQ tests based on ability to learn rather than on what he can do at a given time would have greater predictive validity for him.

Test reliability and disadvantaged minority groups. Anyone experienced in the use of tests is aware of the importance of the reliability of test results. Reliability is integrally related to test validity. If it does not differentiate reliably its validity is assumed to be nonexistent. Yet little attention has been given to this issue, i.e. to the possible contingency of test reliability upon the group's position and status in the social structure. For many tests it seems clear that lower socioeconomic status children--most oppressed minority group members fall in this category--have a smaller spread of scores than children from the middle class. The reliability coefficient of a test is strongly affected among other things by the spread of scores in the group. If one attempts to make differentiations within a group with a more restricted range of scores than the norm group

group for which the reliability was determined, he will find the effectiveness of the test to make discriminations will be lower than indicated by the reliability coefficient. Thus, reliability coefficients computed for a middle class white sample when used with a disadvantaged black sample may well lead to the foregoing problem. Publishers of tests should see that separate reliability coefficients for disadvantaged minority groups are provided in test manuals.

Examiner--Examinee interaction. The effects of the examiner on test scores seem to be significant at both the child and adult level. The effect is especially salient when the examiner is white and the examinee is black (Canady, 1936; Katz, 1964; Katz, Epps, & Benjamin, 1960; Katz & Greenbaum, 1963; Pasamanick & Knobloch, 1955). While examiner effects are not simple--examinee effects interact with task instructions and nature--caution should be observed in the white examiner-black examinee situation since the general trend of these effects appears to be adverse for intellectual task performance. This indication may be even stronger today, given the mood of black people. Research findings by Katz et al. (1964) and Katz (1967) suggest that when the administrator of an intellectual test is white or when comparison with white peers is anticipated, black subjects tend to become fearful of failure. It is hypothesized that anticipation of failure elicits feelings of being victimized and covert hostility toward the tester. Since overt expression of hostility toward white authority is fraught with danger, the impulse is suppressed and elicits emotional responses disruptive to the subject's test performance. These considerations call into question the findings of those research studies utilizing white examiners with black subjects. They also coincide with those of the writer and two white colleagues. Repeated testing of a sample of 13 white and 12 black preteen males revealed a significant drop in average IQ score for the black youngsters when they were tested by the white examiners, a phenomena which occurred two times in the period of one year. The effect of this phenomenon on test validity is obvious. The failure to provide the correct response when tested by the white examiners obviously did not reflect in inability to do so. In many instances items passed earlier with the black examiner were failed with the white examiner.

Failure barriers built into assessment technique. When the disadvantaged individual is required to solve problems with unfamiliar tools or by the use of tools too advanced typically his primary objective becomes escaping an uncomfortable situation. His performance is most likely characterized by guessing, random responses, skipping, hasty, unreflective responses, and ready capitulation to test items as too difficult. These behaviors reflect his anxiety in the situation. The middle class bias of intelligence tests contributes to the unfamiliarity factor for disadvantaged individuals. Haggard (1954) developed a less middle class oriented test, which when administered to disadvantaged youngsters led to a significant increase in performance. He attempted to manipulate motivation and familiarity by offering a tangible reward for doing well and by having the questions read aloud as well as presenting them in writing. The testing of disadvantaged minority group children should follow such procedures for more accurate estimates of their mental abilities.

Another approach to familiarity, relevance, and meaningfulness lies in devising new tests, taking into consideration style, content, behaviors sampled, etc. The attempts to develop culture free then culture fair tests developed out of such considerations as these. These attempts have not been successful. Perhaps another approach lies in the development of a culture specific IQ test for black youngsters. Such a test would enable us to make the same kind of predictions that are successfully made for white children. These predictions would relate primarily to the child's potential and to the type of training which would facilitate his development. Which children can be expected to progress rapidly with a certain kind of learning; which at normal rates; which children can profit best from which kinds of remedial work; which need specially tailored programs? In order to fully understand and to plan for each child's maximum development we need information about black children as individuals. They do not constitute a homogeneous group; individual differences in ability characterize the disadvantaged and the poor black child just as it does children from every culture. Educational programs should not ignore the differences in learning rates of these children. Even though the best use of such a test would be programing to fit the students' needs, its use to establish ability tracks would doubtlessly result in less injury than the current practices of establishing ability tracks on the basis of the present inadequate tests of general ability, since these tests result in misclassification and misuse of talent.

The single determinant concept. Misinterpretation of test results occur when the test content is seen as reflecting some absolute factor, process, etc., regardless of the condition of measurement or of the group being observed. This view results in the error of assuming that the obtained score reflects only intellectual ability. Generally, test taking motivation in a middle class group allows scores to reflect actual differences in intellectual ability. Because "they have generally internalized their need to excel at such tasks, a high score within itself is a reward (Pettigrew, 1964, p. 117)." But studies suggest that lower class students often require a tangible, external reward for motivation (Pettigrew, 1964, Scholnick, et al. 1968).

In this instance, where test success may not be reinforcing, test performance may reflect motivation as well as the trait supposedly measured. Other factors which may affect test scores also, but which may have little relation to the criteria the tests predict, include speed, comprehension of instructions, test taking skills, and anxiety. Thus in interpreting test results of disadvantaged minority group children considerable caution and knowledge of group background factors --social and cultural--are necessary, on the part of the examiner, in assessing the probable effects of these factors in test results.

Conclusions

At first blush this analysis of the use of tests with disadvantaged minority groups may appear gloomy and pessimistic, leading to strong doubts regarding their value with these populations. If the analysis appears grave it is because the situation analyzed is grave. In this instance strong skepticism is a healthy posture. For too long tests have been used in a psychologically damaging way with disadvantaged and especially poor black people. Administratively they have been used to exclude rather than include; research wise they have been used to paint a picture of an inferior being, biologically or socially, or both. It matters little whether these were consciously intended effects.

Many black people are of the opinion that IQ testing should be eliminated. While the writer shares much of the feelings inherent in this position he does not advocate this extreme course of action. However, he feels that the user of tests should be fully aware of their shortcomings when used with minority group members and of the kinds of inferences which can be legitimately drawn from test results. Numerically identical scores may have meanings different from those of persons with different life experiences. If a decision affecting the person's life, or explanations having implications for action, expectations, attitudes, etc., are to be made, it is ethically and morally incumbent upon the user of the results to ponder what lies behind the scores.

In the educational setting, ideally, test scores would be used to devise programs for individuals, programs which take into consideration their strengths and

and weaknesses. Such use conceptualizes the test as an integral part of the instructional program, where test results can help to assess the degree to which instructional objectives are being approximated.

Special emphasis should be given to selection or development of tests that maximize differentiations which are related to a criteria, and that minimizes irrelevant discriminations. For example what discriminations required by the SB or WISC (WAIS) predicts criterial performance requiring conceptual learning and abstract problem solving? The global IQ does not provide this information. A "dimension of intellect" approach (recommended by Dreger & Miller, 1960) which would allow relating patterns of dimensions (spatial, verbal, numerical reasoning, etc.) to the criterion could reduce items which contribute irrelevant discriminations and maximize those making criterial differentiations.

Admittedly the fact that a test differentiates between advantaged and disadvantaged groups does not make it invalid. This is in fact the case where such tests predict culturally unfair but important criteria; an instance of this regards academic achievement in our racist educational system. A test which predicts attainments in this system must reflect the same social inequities as exist in the system. An unbiased test would not predict successfully unless the biases in the system were eliminated. The problem is that the users of these tests interpret the predictive validity (agreement between tests scores and scholastic achievement) to mean that the test results and school achievement converge to demonstrate the inability of the disadvantaged minority group child to learn.

The test user might claim that he has to utilize the test according to limitations built into it, that the concern about bias in criterion extends beyond testing, and that it becomes a societal problem, one of social policy and amelioration. Nevertheless, this does not free him from moral concern about and consideration of the limitations of IQ tests with oppressed minority group members. The test results he elicits and their interpretation may result in actions, opinions, and beliefs having far reaching consequences for disadvantaged minority group members as well as for the society as a whole. To ignore the kinds of issues discussed in this paper results in the misuse of tests with members of oppressed minority groups, and such misuse constitutes a serious violation of professional ethics, as well as an affront to human dignity.

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ABSTRACT

EVALUATION AND TRAINING OF COGNITIVE-PERCEPTUAL-MOTOR FUNCTIONING FOR ADOLESCENTS WITH LEARNING AND ADJUSTMENT PROBLEMS

by

Gayle R. Beck

An abundance of research concerning specific assessment and curricula for children between the ages of 6 and 10 with learning disabilities has recently been published. The work of Kephart (1962), Frostig (1963), Kirk and Bateman (1962), and others has been incorporated into regular school programs and the many newly established classrooms throughout the country for young children identified as neurologically impaired, minimally brain damaged, perceptually handicapped, etc. An interdisciplinary research team, of which I have been a member, has over the last 8 years studied elementary age children of average intelligence with emotional disturbance resulting from learning disability. Our results of a controlled research project on 400 public school children in Roseville, Michigan, revealed that a significant number (approximately 40 percent) of children with behavior maladjustment

showed evidence of learning disability and cognitive, perceptual, and motor dysfunction to the degree that they were markedly limited in their ability to cope with the demands of home and school expectations. Our studies further demonstrated that systematic intervention aimed at correcting functional defects had merit and effected improvement in adaptive skills beyond what would be expected of maturation and normal school experience (Rubin, Braun, Llorens, & Beck, 1968). Clinical evidence that this phenomenon similarly exists in the adolescent population has led to the development of a systematic approach of evaluation and remediation of learning disabilities for the adolescent age group.

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IS SUCCESSFUL ACADEMIC BEHAVIOR THERAPEUTIC?

AN OPERANT CONDITIONING APPROACH TO THE DEVELOPMENT AND UTILIZATION OF CURRICULUM MATERIALS FOR SERIOUSLY DISTURBED CHILDREN

by

Gerald Hasterok

There are three major ideas which form the basis for an answer to the question presented in the title of this paper. The first is that any type of behavior which is followed by some positive state of affairs must be viewed as successful behavior. The second is that the methods of operant conditioning used for controlling or modifying behavior make it possible to arrange academic situations in such a way as to provide high rates of success. The third is that of all of the factors available for manipulation in a classroom, one of the easiest to vary is the type of material which is presented to the child. These three ideas and the assumptions underlying them form the rationale for the hypothesis that academic behavior can be therapeutic for an emotionally disturbed child if the consequence of performing academic tasks is allowing him to obtain some desired goal.

With respect to the first premise, we believe that success of any kind can be nothing but healthy. We see no negative consequences resulting from successful behavior. However, success as used here is defined in a specific manner. That is, success following a task is the attainment of some desired reward on the part of the child; on the other hand, completing a page of arithmetic in which all problems are done correctly and for which he receives a mark of 100 is not viewed as success. Work done in which all the answers are correct is just work. In order for such work to be successful it must be followed by some consequence, reinforcement, or reward meaningful to the child. Defined in this manner, few children receive many successes in any given school day.

The second premise is based on the belief that there is enough evidence from research on behavior modification to justify a good deal of optimism concerning its use with emotionally disturbed children. It is effective in increasing the academic behaviors of retarded children (Bijou, Birnbrauer, Kidder, & Tague, 1966). It has been shown to be effective in achieving almost errorless learning, thus challenging the view that all learning must be of the trial and error sort (Sidman & Stoddard, 1967). Using such methods, it has also been successful in changing the behavior of adult schizophrenic patients (Lindsley, 1965). Therefore, it ought to be useful in increasing the academic behaviors of emotionally disturbed children.

The third premise is based on a scheme for analyzing educational tasks proposed by Professor Stolurow, now at Harvard University (Stolurow, 1960). He suggested that any educational problem can be looked at in terms of a set of five factors. These are: (a) task factors, (b) subject factors, (c) practice factors, (d) training aids, and (e) instructor. Changing this scheme somewhat, we can say there are four sources of variability within a classroom. The first is the child himself, the second is the task which he has to perform, the third is the environment which is composed of the physical environment of the classroom, and the fourth is the children and the teacher. Looking at these factors, it seems that the one which would be easiest to manipulate or vary would be the task or training factors. Factors such as the personality of the child or his characteristic way of responding to situations, the personality and value system of the teacher and other children, and the physical characteristics of the environment seem less available for manipulation or at least more expensive in terms of the amount of effort involved in changing any one of them.

Stated in very simple terms, the major thesis of this paperis that behaviors which are followed by some meaningful reward for the child will result in the type of behavior on his part which we would term healthy, positive, or adaptive. Such positive behaviors seem to be most easily obtained from the child by manipulating the stimulus conditions of the task, that is, by presenting the task in novel ways. Some central agency is needed to make available the large quantities of material and devices which are needed. Consider the following hypothetical situation: the teacher, getting ready to plan a coming week's educational experiences, would think in terms of scheduling 1,000 consecutive successes for a given child from Monday morning until Friday afternoon. If this were possible, we believe that the child, at the end of such a series of experiences, could not help but be emotionally more sound. If instruction or teaching is viewed as nothing more than a way of organizing a set of stimuli so that the child can acquire a certain response or set of responses (such as naming a word or doing long division), then the teacher needs the widest variety of materials at his disposal in order to accomplish such a goal. To present the child with one hardback basic reader and one workbook accompanying it increases the probability that the child will be unable to learn since there is only one way of arranging the task factors for the child. Thus, given a wide variety of ways of presenting the tasks or arranging the sequence of steps in the task, and of attaching to the responses involved some type of positive consequence for the child, the probability ought to be increased that the child would derive some positive emotional benefit from such an experience. While arranging the educational environment in such a way that a given child could experience a thousand consecutive successes is a difficult goal, this ought to be the goal we aim at in working with any type of child, but especially so for children labeled emotionally disturbed.

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Analysis of the Academic Task

In general there are two types of behaviors in which children are interested. The first for the emotionally disturbed child is that he has the desire to express behaviors which other people see as undesirable, or he lacks alternate ways of behaving. Thus, we say of him that he has the need to scream, yell, sit and daydream, kick, or destroy material. The second type of response which the child desires involves those which will lead him to some positive consequence, such as free time to play, the opportunity to be alone, or the opportunity to obtain some primary reward such as food or candy. Here we would argue for using academic behaviors as a means to an end, rather than as an end in themselves. Specifically, two types of consequences would follow academic behaviors. One would be the opportunity for the child to express the types of behaviors he wished. The second would be those types of positive rewards which would interest any child. All too often, the teacher spends too much of his time trying to arrange the environment so that the cues which call forth such maladaptive behavior are not present. Or, the teacher tries to help the child to control such maladaptive behaviors, or in some way to change him so that he does not feel the need to express himself in such maladaptive ways. We suggest here, however, a different strategy--attach to academic behaviors those types of behaviors which the child feels he must express, but arrange the situation so that those behaviors are controlled.

The Curriculum as a Therapeutic Device

We seem to have assumed, up to this time, that because emotionally disturbed children are of average intelligence or do not possess sensory or motor handicaps, special instructional materials are not necessary. In general, the types of materials used in a class for the emotionally disturbed are the same as those used in a regular classroom. The emphasis in such classes is on changing the affective environment so that the child feels under less threat, rather than trying to find special instructional materials for the child. Since, in general, the child has adequate learning abilities in terms of acquiring academic skills, the emphasis for the teacher of the emotionally disturbed has been on the social behavior of the child rather than on his academic behavior.

However, we believe it would be useful to have materials cataloged for emotionally disturbed children, just as material has been cataloged for the blind, the mentally retarded, or the deaf. Just as the field of special education has developed specialized materials for specific types of handicapped children, so special eudcation ought to identify materials specifically for use with emotionally disturbed children. The major difference in cataloging such material would be that it would be cataloged on the basis of the types of overt behaviors for which the material was best suited. That is, materials suitable for the "fidgety" child, the daydreaming child, the masturbating child, or the hostile child are needed. The material which is used should be matched to the types of behaviors which the child is expressing.

For example, for the child who desires strong pounding, tearing, or destructive responses, it seems unwise to give him a delicate, plastic cartwheel to spin for sight vocabulary. Rather, a sturdy device in which a correct response could be followed by a second banging or stamping response in order to move the next word forward in the frame might be much more satisfying (signify a greater measure of success) than some other consequence. For the shy "withdrawn" child, a device with closed sides which allows him to hide behind it might increase his rate of whispering spelling responses into a tape recorder. The hyperactive child might complete many more academic tasks if the answer could be given by poking a square 10 or 12 times which contained the correct answer, instead of merely writing down the answer in a blank space on the paper.

In other words, instead of describing material in terms of its usefulness for children with perceptual difficulties or motor handicaps, or in some general way, we suggest that material be described in terms of the specific types of behaviors for which it is suitable. Given a library of such materials, the teacher of emotionally disturbed children would have at his disposal some more effective ways of controlling and manipulating the behaviors of children. The implication of this approach is twofold. One, the behaviors which other people see as maladaptive could be made the response to academic tasks. As the example showed, pounding or stamping the foot would become the means by which a response is made to an arithmetic problem or learning a sight vocabulary, etc. The second implication is that the child could be given an opportunity to express these "maladaptive" behaviors as a consequence or as a reward for completing academic tasks. Thus, rather than trying to shape them out of the child from the first minute he comes into a class, the teacher would control them by attaching them as consequences to academic behavior.

The objection will be raised that this approach would do nothing to help the child learn more adaptive behaviors. This is correct. However, we in education so often hear that we "must start where the child is." If the child is at a place where he has a great need to express what we would call hostility, aggression, withdrawal behaviors, or some such thing, then the best strategy to adopt in such a situation is to use such behaviors to our benefit. Here then, is the necessity for having some type of materials center in which a very large quantity of such materials and devices could be available to the teacher. The more important function of the materials center would be to investigate and catalog the specific types of instructional materials which are most useful with specific types of overt behaviors of children.

The Concept of Success as Therapy

Looking at a classroom for emotionally disturbed children in more conventional ways, the concept of success as used here can be fitted into several types of personality theory. Whether we use Rogerian, Freudian, or self theory, the concept of being successful in obtaining one's desired goals is consistent with the view that adapting to our environment in socially acceptable ways is emotionally "healthy."

We most often say that the emotionally disturbed child either feels very threatened by his environment and thus must act out in defense against it, or has some deep unexpressed needs and because of his perception of a hostile environment withdraws into himself and is afraid to express such needs.

To the child with maladaptive behaviors, he must see school as a failure experience and must have attached to academic tasks some negative value. Thus, reading, writing, and spelling behaviors have a negative connotation, or mean failure to him, because they have occurred in a larger situation in which he has been unsuccessful. We would wonder what such a child must feel when he observes, in any type of class for emotionally disturbed children, the same types of books, the same seating arrangement, the same blackboard, the same pencil and papers. Attached to those stimuli must be some negative associations which are formed in the initial situation in which he failed. We would argue here that the easiest thing to change would be the stimulus objects (training aids) in the classroom. If the stimulus objects in the classroom were extremely novel, they would have no prior meaning attached to them. He would enter the situation on a neutral basis rather than a negative one. If, further, as a consequence of responding to such material, he was allowed either to express some affective response or was given some more traditional reward, then such materials and the behaviors associated with them would be viewed by the child as being ones which lead him to the goals he sought. We suggest that any type of behavior which leads one to a desired goal and is not punished by others is successful or adaptive behavior and, therefore, emotionally positive. Stated succinctly, we suggest that anything which reduces the threat to the child be viewed as success, i.e., when he is behaving the way he wants to, he would feel that he has at least some means of relating to his environment. What is needed are materials to which he can relate in the ways he wants and which will allow him to express those behaviors he wishes.

All too often what is really going on in an academic situation is that we are forcing the child to respond in only one way, or in a way which he finds intolerable. Being unable to find the "correct way of responding" or believing that the correct way of responding costs too much, either in terms of emotional energy or physical energy, the child may respond in ways which others do not reward. Thus, the net result in a failure experience for the child, One of the uses of behavior modification is to determine ways in which the child feels comfortable in responding and attach these to academic behaviors.

Whether we wish to talk about increasing the emotional security of the child, increasing his ego strength, or developing in him a more positive self concept, high rates of obtaining desired rewards ought to enhance the attainment of such goals. At all times the child is forced to respond in some way to his environment. If the academic tasks (or, in other words, the "work" required in the environment) are immediately followed by some desired reward, then the child must conclude that he is being successful. Successful adaptation to the environment is, as we define it, an emotionally positive consequence.

While we may object that such a scheme would not aid the child in learning new, more adaptive behaviors, we ought to keep in mind the following goal: if, at the end of the day, the child either verbally or hypothetically were to say to himself, "I have been successful (or I feel good), because today I have obtained the things I wanted or acted as I wanted almost all of the time," then he would be making an adequate adaptation to his environment on at least his terms and, thus, the academic behaviors could be viewed as being useful in achieving his desired ends. Seen in this way, academic behaviors serving as the means by which the child obtains what he wants and is therefore successful in responding to his environment, must be considered as being therapeutic in most any way the term is defined.

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ABSTRACT

PSYCHOLOGICAL SERVICES TO THE DIAGNOSTIC TEACHER

by

Marjorie Valentine

The school psychologist, sometimes known as Betty Binet-Kit or Wilhelmina Weschler, welcomes the diagnostic teacher with enthusiasm. The introduction of a specialist, trained to evaluate educational problems and write education prescriptions, will remove us from that role of ability evaluation too long assigned and too seldom appropriate.

The roles of diagnostic teacher and psychologist do not preclude, but rather supplement each other. School psychologists, trained in theories of behavior, motivation, learning perception and cognition, as well as behavior modification techniques, have much to offer in these areas that have too often gone untapped.

Psychologists work with diagnostic teachers as consultants to the diagnostic teachers, as observers and as consultants in working with children, teachers, and parents, both individually and in groups, as well as administrative staff. His location outside of the school gives him a perspective that is unique and often of value. Essential to good psychological services are communication, collaboration, willingness to accept each other as professionals and the awareness of each of the skills and limitations of the other.

The school psychologist's role is best exemplified by the term special services--special, defined as the unique or special point of view which the discipline offers, and service defined as the psychologist's understanding of, concern for, and performance in the institution known as school. It is by an awareness on the part of the diagnostic teacher of the terms above and his willingness to make use of the special service that the school psychologist may function with value for the diagnostic teacher.

PSYCHOPATHOLOGY OF THE SOCIOPATHIC ADOLESCENT WITH IMPLICATIONS FOR EDUCATION AND REHABILITATION

by

Dennis L. Hogenson

Researchers in the areas of the behavioral sciences, teachers, counselors, clergymen, rehabilitation and parole supervisors, and the great American public at large have long been aware of the activity of the sociopathic individual. From the more formal descriptions of Cleckley in his now classic The Mask of Sanity (1955) to everyday newspaper reports of murder, rape, embezzlement, addictive behavior, etc., the sociopath is ever before us. Although numerous theories have been offered to explain the origins (psychopathology) of the sociopathic personality, little unanimity in agreement among current hypothesis can be found. It was from this condition that the present paper was conceived as an attempt to organize several years of clinical experience in psychology and vocational rehabilitation involving dozens of very sociopathic adolescents of both sexes. While some re-

cent postdoctoral work in experimental psychopathology with Norman Garmezy of the University of Minnesota would suggest that the title of this paper is far too ambitious, an attempt to set forth a theory of psychopathology in adolescents, together with some logical outcomes for education and rehabilitation, seems justified.

The Sociopathic Personality

The behavior of the sociopath (psychopath, delinquent, criminal, etc) has some rather general characteristics which include antisociability with the absence of guilt or anxiety and an inability to form close personal relationships (Maher, 1966). The tendency to not profit from past behavior and its consequences has also been a classic observation. For the purposes of this paper the sociopathic adolescent will be defined as one who exhibits those behavioral traits measured by clinical scale number four of the MMPI (Minnesota Multiphasic Personality Inventory, Hathaway & McKinley, 1943). Such adolescents are described as extroverted, socially outgoing, with histories of delinquency which have been uncontrolled by the ordinary mores of society. Such persons are often very bright. They often exhibit a halo effect which makes their identification difficult before problems with the law occur. Their typical activities include stealing, lying, truancy, sexual promiscuity, alcoholic consumption, forgery, and related behavior. This behavior is usually poorly motivated and poorly concealed. Such persons have long histories of minor delinquency. They are emotionally cold, lack worry about their futures tend to be egocentric, and rarely establish rapport with teachers, counselors, psychologists, or other professionals (Drake & Oetting, 1959). There seems to be abundant evidence that the MMPI reliably measures the above behavior. Sines and Silver (1963) found that it was possible for clinicians to index degree of psychopathology from MMPI profiles "independent of type of pathology reflected."

Psychopathology of Sociopathic Behavior

It is neither possible nor desirable to review at this time the numerous theories of psychopathology of sociopathic behavior. Anyone interested in such a review is encouraged to consult standard references in abnormal and social psychology. Suffice it to say that such demographic factors as broken homes, poverty, race, poor housing, lack of recreational facilities, working mothers, etc., have not been found to be causally significant (Hirschi & Selvin, 1966). It will be the position of this paper, conceived solely from observations made by the writer in his clinical experience (together, of course, with the numerous influences of such giants in psychology and psychiatry as Harry Stack Sullivan), that adolescent sociopathy is a consequence of only one family dynamic which we shall term the bitching mother syndrome. This syndrome is most pathological when a father figure is present (as opposed to desertion, divorce, or death) but when the father is a passive and ineffectual person. The destructive route by which the bitching mother syndrome leads to sociopathy will be outlined in a rather straightforward self concept psychological model.

Early Seeds of Destruction

There appears to be little doubt that the childhood experiences of sociopaths have been abnormal. Citterio and Cunego (1965) examined the histories of 427 psychopathic women referred for therapy between 1913-1963; "abnormal parental associations" were a consistent finding. Similarly, Martin and Channell (1964), based upon MMPI evidence, found significant personality differences between parents of delinquents and parents of "normal" adolescents. Bandura and Walters (1959), in their classic study of adolescent patterns of aggression, found early dependency involvements with mothers in the absence of suitable father figures to be crucial in the expression of antisocial aggression.

Having accepted (presumably) the early origin in childhood aspect of sociopathy, we are now ready to move on to an examination of the specific vehicle of involvement.

Balint (1963) has precociously and correctly viewed the mother role in early infancy as one of "reflecting" or mirroring back to the infant her responses to his behavior. Now if the mother is a person who constantly mirrors back images of the infant's inadequacy and unworthiness, and maternal disgust for the infant's behavior, we may expect such impressions to become a part of the infant's self concept if no one intervenes on the infant's behalf. It is at this point that the role of the ineffectual father figure becomes crucial. When no one (at least occasionally) challenges the bitching mother's negative and hostile remark to and about the infant, what choice does the infant have other than to assume the mother's appraisal of his self worth is accurate? In effect, his self concept has been molded. As we shall presently see, changing ones self concept is likely to be a very difficult task.

The early attempts to do psychotherapy with sociopathic veterans in VA hospitals following World War II, and the great failure of such attempts, are well known. Because many sociopathic veterans in therapy appeared to be getting worse rather than better, and because anxiety and depression levels sometimes culminated in suicide, such psychotherapy attempts were usually discontinued. Apparently the self concept, once established, resists change so tenaciously that even therapy is often ineffective. Because attempts to change self concept pose a vital threat to the ego, violent depression and anxiety follow.

Cottle (1965) has observed that individuals validate their behavior and that of others with reference to their self concept. When discrepancies exist between behavior, self concept, and ego ideal, anxiety follows. Therefore, if one's self concept is one of complete unworthiness and asociability, one will behave in such a manner as to preserve this self belief against all evidence to the contrary. The encapsulated sociopath will have become stablilized. Lively, Dinitz, and Reckless (1962) and Vedeler (1965) have related self concept to delinquency. Similarly, Secord and Backman (1961) have shown that behavioral stability is related to self concept. When personality incongruencies arise in relationships with others, only two choices are open to the individual. He can change his behavior or he can change his self concept. Because the latter is too threatening, it is invariably behavior which changes.

Rottenness is the sociopath's defense. Assume that we may accept the following: (a) the adolescent sociopath's behavior was shaped early in infancy through unchallenged negative evaluations by his mother; (b) these evaluations became accepted as a true statement describing the sociopath's unworthiness; (c) feeling unworthy and rotten the sociopath will then behave in such a manner as to preserve this self concept; (d) later attempts by others to convince the sociopath that he is potentially worthy, adequate, and "normal" will be vigorously denied through sociopathic behavior patterns; and (e) to change his self concept to one of essential normality would throw the sociopath into desperate depths of depression with unbearable anxiety. Now if the above statements can be accepted as at least potentially accurate, should we be surprised that therapists are reluctant to engage in psychotherapy with sociopaths, or that delinquents, addicts, sexual deviants, and others are difficult to change? Of course not! Yet at the present time all of our efforts have been in this highly unprofitable direction.

Implications for Education and Rehabilitation

If it can be agreed that our schools, vocational and other rehabilitation agencies, and similarly structured institutions have a role in society to somehow channel the energy and impulses of the sociopathic adolescent, then what implications does the present psychopathological model have for such programs? Obviously a plea for "typical" social conformity will fall on deaf ears. Such phrases as "learned their lesson" or "reformed," not to mention "rehabilitated" have little meaning for the sociopath. Remember, to conform is to be normal, and to be normal is to suggest that one's early self concept of unworthiness, rejectable, etc., might be inaccurate. To reexamine one's self concept is to have one's very identity as a person questioned. This is far too anxiety producing for many people to endure.

The alternative, which has worked well with several clients in the writer's vocational rehabilitation caseload, is to permit the sociopath to maintain his unfavorable (by society's standards) self concept, even to reinforce it, while moving him through whatever services are being provided. The sociopath is never encouraged to "shape-up and act like other normal kids," nor is he reminded that his parents and others expected "better" behavior, achievement, punctuality, manners, politeness. Indeed, he is helped to understand what attempted sabotages of the program are expected from people like him and he will be asked to remain in spite of such activities. Swearing sometimes helps. So do references to "people who you expect to steal you blind the minute your back is turned." It takes courage to walk up to a sociopathic adolescent and ask him to return something you know "damn well he has taken from another." When planned vocational rehabilitation programs for sociopaths are summarized for the client, it is the naive counselor who says "and I sincerely hope this program goes well for you." It won't! A better approach would be to suggest that you fully expect the client to "sleep late, absentee himself frequently, be disrespectful of the supervisor and other employees, steal from the firm, etc." You know this from "my experience with other guys like you." Besides "if it was my plant (or school) I probably wouldn't take you on for love or money."

Obviously what I am saying is not to suggest that "professional people" should be cold, callous, and inhuman. (God forbid!) What I am suggesting is that the successful teacher, counselor, therapist, etc., who works with sociopathic adolescents must present the program on the other's terms. Last, and most crucially, the success of such a program must weigh heavily upon the shoulders of the leader. He must be able to recognize, accept, and use the sociopathy without destroying the adolescent (or his own professional career). A delicate balance of what society will tolerate (in it's real hardcore citizens) and what conformity the sociopath can extend without becoming undone in his identity and ego function roles, is what we are really trying to achieve.

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ABSTRACT

THE ROLE AND FUNCTION OF THE DIAGNOSTIC TEACHER

by

Vera Vinogradoff

Traditionally, the diagnosis of factors impeding the scholastic achievement and adjustment of children has been carried out by psychomedical teams or psychologists. The results of such evaluations have offered little meaningful information to the educator. Outgrowths of this psychomedical orientation include the categorical labeling of children in terms of clinical syndromes, the development of categorical special education programs, and the unnecessary exclusion of many students from the mainstream of education. These practices have generally been found inefficient and unsatisfactory, if not harmful to those involved.

Diagnostic teaching offers an alternative way to educationally diagnose, place, and program for children perceived as having academic and/or behavioral problems. An educator is the central figure in the process and the focus is on the discovery of successful ways to deal with the referred child.

This paper discusses the rationale and model for diagnostic teaching. A

case study and educational prescription developed by a diagnostic teacher are presented in addition to the reactions of regular classroom teachers to the diagnostic teaching process.

SOME IMPLICATIONS FOR EDUCATION OF DIAGNOSTIC/PRESCRIPTIVE TEACHING

by

Robert W. Prouty

The diagnostic/prescriptive teacher (DPT) model has a number of subtle and not so subtle implications for education.

First and most important, it rejects the long and dearly held rationalization of the educational establishment that it is children and not schools who are deficient whenever problems arise. The DPT adheres to the viewpoint that the teachers and schools must be held finally accountable.

Second, the existent structure and process of psychological and psycho/medical diagnosis is viewed in the DPT model as irrelevant and often counterproductive. In place of such clinical and paraclinical techniques, the DPT focuses on the learning environment and the interdynamics between child and teacher from the perspective of an educator.

Third, the entire fabric of current and traditional labels is rejected. Such terms as "mentally retarded," "emotionally disturbed," "brain injured," and "educationally disadvantaged" are administratively convenient and educationally immoral. They stigmatize without providing any compensatory gain for children. They create pseudoscientific classifications and groupings without facilitating learning. They, more than any other single aspect of special education, exemplify the evil we do to children in the name of maintaining the status quo of regular class education. Once these terms and other jargon are removed from the daily conversations of schools a delightful thing occurs. Everyone begins to view children as individual human beings and in some cases we have even seen teachers relearn to communicate in comprehensible sentences.

Fourth, the diagnostic/prescriptive teacher acts to facilitate the gradual dismantlement of existing categorical special classes. This comes about through the major reduction in numbers of referrals from regular to special education and through the return to the regular class of some children presently assigned to special settings, with support from the DPT program.

Fifth, the maintainence of children in regular classes will require the expansion of existing service program models of the resource teacher type. Hopefully, such expansion will be accompanied by a broadening of concern to make of such teachers generalists in special education. With the elimination of existing categorical programs, there will be need for development of a self contained or semi self contained noncategorical class model for intensive individualized instruction of some--but far fewer--children than is now the case.

Sixth, the primary criterion employed from this time on in planning, implementing, and funding special education programs should be the question, "How does it change regular education?" Unless and until special education sees as its proper role that of a change agent for all of education, we shall remain far from the educational goal beautifully summarized by Maxine Green when she writes. "Young people must be enrolled to invent identities for themselves in an open world, without viable patterns, models, guarantees."

TEACHERS OF DISTURBED PRESCHOOL CHILDREN: PREPARATION FOR LEADERSHIP

by

Samuel J. Braun and Miriam G. Lasher

This presentation describes a pilot training program for preschool teachers of emotionally disturbed children in which a small group of full time trainees worked toward a masters degree during an academic year and one summer.

The conceptual base for the program draws not only from developmental and psychoanalytic principles, but also from concepts of competence, reinforcement, social systems, and an ecological view of the child in his total context.

The trainee's experience includes a great deal of practicum experience, supplemented by carefully integrated coursework. Practicum experiences are based in a state mental health clinic where a unit for preschool disturbed children is staffed by one experienced supervising teacher and several trainees who function as interns. In this setting a pair of trainees work together throughout two semesters with the same small group of disturbed preschool children which meets two or three half days per week. Trainees are responsible for classroom management and curriculum planning, and for clinic communications about the children with whom they work. Adequate support from both educational and clincial supervisors is provided but there is no experienced head teacher in the classroom with the trainees.

A second type of practicum experience is regular weekly or biweekly home visiting with the families of the children in the therapeutic groups. The focus is on enhancing strengths that exist in the family, on concrete demonstration of ways of relating and helping children learn, and on putting the families in touch with needed community or specialized resources.

A third aspect of practicum is regular tutoring or individual teaching of a young child with a learning problem or sensory defect. Here the trainee's focus is on defining the role of tutor, assessing strengths and deficits in the child, and planning and executing an individualized carefully sequenced curriculum.

The fourth aspect of practicum occurs in the summer school which follows the academic year. Trainees are each assigned to two or three Head Start classrooms in a town which has only a summer Head Start program. The trainees carry out a mental health screening procedure and fill the role of consultant to the Head Start teacher. A testing course, taken simultaneously, provides an opportunity to test children in Head Start who are also subjects of the mental health screening and consultation.

Coursework runs simultaneously with practicum experiences. Most courses are planned especially for the trainees in this program and are conducted by a faculty team which is able to work closely with the trainees. A seminar runs throughout two semesters. A curriculum workshop emphasizes the design and development of materials to meet particular needs in the classroom. A course in learning disabilities in young children covers the tutoring experience and includes supervision of that work. A course called Field Work with Young Children covers the consultation and mental health screening experience. A course called Evaluation of the Young Child covers the testing work in the summer. Each trainee takes one or two electives in the regular department graduate offerings, covering such subjects as infant development or early cognitive development.

In trying to implement our ideas in the training program, we followed a rather simpleminded idea--that what we believed about the education of young children would hold true for teachers who would work with them. The program would be highly individualized and attentive to the interest of the learner. The training process itself and the experiences offered would help to structure the role expectations and goals of the members. We were interested in the possibility that a mirroring process could take place--the staff, planning and solving its problems together and communicating about the trainees, could be a model for the trainees themselves. As staff worked with trainees there would be a mutuality in raising and answering questions, rather than a formal teacher-student relationship. This would hopefully be reflected in how the trainees themselves know and use each other in solving problems. In turn this process would be reflected in the ways that the trainees would work with their groups of children, parents, supervisors, consultants, and other professionals. There would be no one right way to behave, but there would be a pattern for solving problems, using one's self, figuring out what help was needed and how to get it.

From our experience in this training program we can draw four operating principles:

1. Responsibility--The trainee assumes the consequences of his own actions in a simulated work situation.

2. Initiative--The faculty are resource persons rather than fountains of knowledge. Courses and supervision reflect the students' own decisions about what they need to learn and the timing of that learning.

3. Sensitivity--One's own feelings and one's sense of one's self as an instrument are an important part of any observation or intervention plan.

4. Continuity--We would strive for a unified experience which involves a merging of practicum and content.

We place emphasis on the trainees' learning to evaluate themselves, to know their own strengths, where they need help, and how to use another person effectively as consultant or supervisor. We have spoken about a restatement of the Golden Rule: Do unto your trainees as you would have them do unto those with whom they will work.

We believe that we are preparing a comprehensive middle level mental health worker--a generalist with special skills in assessing and managing behavior and learning problems in young children while working also with their families and while mobilizing community resources for these people. Such workers are prepared to assume new roles in evolving community mental health programs and in programs such as day care and Head Start. Such workers have their attention directed not only to treatment but also to prevention and early detection of problems. Such persons work not only directly with children and families, but also through other community members in the role of supervision or consultant.

THE TRAINING OF REIFICATIONS: ITS SIGNIFICANCE IN THE EDUCATION OF TEACHERS OF THE EMOTIONALLY DISTURBED

by

Lester Mann

Definition: Reify: To regard (something abstract) as a material thing.
Reification: The process or result of reifying.

The need to reify appears to be as much a generic characteristic of man as his communal orientation, his need to manipulate and explore, and his ambivalence towards his fellow man. Occidental language encourages, indeed, compels us into reifications which is a mixed blessing in that it fosters the development of abstract thought but also the tendency to overgeneralize and simplify.

In science reifications have played a time worn if not always time honored role. Investigators and scholars, from the prehistory of scientific endeavor through their early empirical fumbling explorations and into the glittering technology of the present day, have used reifications for the purpose of understanding and manipulating data more effectively; all of us, indeed, would find it difficult to manage the flux and flow of everyday experience, let alone that of the laboratory and clinic, if we did not reify that with which we live, work, and communicate. The more sophisticated of us indulge in reifications with maintained cautious awareness of their "as if" qualities and implicit, if not clearly explicit, reservations as to their limits and dangers; the more naive or more zealous perform the operation unselfconsciously as if, indeed, they believed that what is reified becomes palpable reality!

With reifications as with metaphors, the danger is in treating the "as if" as "real." Regarding metaphors, Sarbin (1967) has noted (in discussing Turbayne's Myth of Metaphor),

> Every metaphor contains a wealth of connotations, each connotation has the potential of manifold implications and each implication is a directive to action. While metaphors are ordinarily used by people to facilitate communication, the peril is always at hand that people may be used by metaphors.

The same may be said for reifications.

When reifications are no longer recognized as such we approach dangerous waters in both thinking and practice, and it is just such dangerous waters that special education has ventured into of late with its ability training orientations. Hence the motivation for this paper.

In physical science, reifications have had a checkered career; some have proven to be realities attending only the invention of sophisticated methodologies for validation, for example, the atom. Others have proven themselves eminently useful despite their equivocal status,e.g., the quanta of Max Planck. Still others have proven to be utter frauds, will of the wisp speculations leading investigators down roads of mis-inquiry, posing pseudo questions and receiving pesudo answers, e.g., phlogiston, elan vital.

But certainly, we can say that the physical sicentist for the most part has gotten good use out of his reifications which have become increasingly sophisticated and in our day typically are scientific constructs anchored in specified operations, mathematical formulae, and the controlled rituals of the laboratory. It is as we move increasingly away from concretely physical realms of investigation into behavioral, social, and educational areas that we see reifications becoming loose, more insecure, more supported by opinions and obiter dicta and less with facts; and at the same time, often see them more zealously adhered to and believed in. All of us, for example, know and recognize the artificial and relative nature of the "IQ" and we have been regaled with many accounts of its misuse; but do we not all of us, novice teacher to hardened school psychologist, still cling to it in our bosoms as something that is real. Repeated theoretical and empirical attacks upon IQ have these many years not really disabused us of our belief in it as something that is or makes intelligence, and that people own in greater or lesser amounts. Our use of it is a tribute, nay a monument, to man's uneasiness in face of the abstract and of behavioral and educational sciences' vulnerabilities to reifications.

Education had a particularly virulent infection of reifications in the days of faculty psychology, when attempts were made to train and strengthen "faculties" (sic abilities) such as attention and memory. If faculty psychology and its practices have a familiar sound to them today, it is because the present foray of special education into the realm of learning disabilities presents in part a renaissance of the philosophies and training approaches of this once discredited movement. Our referent is that effort in diagnosis and training which is dedicated to the assessment of so called basic learning abilities and disabilities in perception, language, cognition, and so forth, an effort that Barbara Bateman (1967), who has served most effectively as a commentator for the movement, has christened "diagnostic-remedial."

The present day notion of ability training and disability remediation is based on the assumption that learning problems in specific academic areas often represent weaknesses or impairments of fundamental "learning abilities," e.g., figure ground perception, auditory decoding, automatic sequencing. These abilities are to be evaluated and analyzed on the basis of specialized tests and assessment devices intended to specifically and quantitatively delineate their strengths and weaknesses, such as those preferred by Frostig (1964), the ITPA (McCarthy & Kirk, 1961), KELP (Robeck & Wilson, 1967), Valett (1968), etc. And on the basis of the diagnoses arrived at by such testing, training programs are to be instituted to correct the particular disabilities revealed or in some way to capitalize on the more positively developed abilities that the child may manifest. Bateman noted that such training represents "teaching children how to learn." She noted further that it may be advisable that curriculum be taught on the basis of the particular patterns of ability and disability revealed by ability testing:

> if each child had posted on the front of his desk a profile view of his present level of development in areas such as understanding what he hears, categorizing ability, visual memory, etc., with the normal development sequence of ability in each area clearly spelled out, she could see at a glance (a) where the child is, (b) what step comes next and (c) types of classroom activities suitable to move him a bit higher up the ladder (Bateman, 1967).

To summarize the assumptions of ability-disability assessment and training, we note that these programs assume (a) that basic organismic functions can be measured and assessed through tests, rating scales, etc.; (b) that these basic functions correspond to the names of the tests, e.g., that the figure ground test of Frostig's battery directly evaluates a child's ability to differentiate figure from ground; (c) that it is appropriate to train pupils so as to improve their scores on the tests; (d) that this improvement would represent the improvement of basic abilities; (e) that the improvement of basic abilities will lead to more effective academic learning; and (f) academic learning should be so modified as to take into account a child's pattern of "basic" learning abilities and disabilities.

Such a set of assumptions represents a very naive belief indeed in the value of tests as precision devices in human measurement (Mann & Phillips, 1967) and --directly to the point of the issues dealt with by this paper--the reification of test labels and abstractions.

Regardless of the distinguished imprimaturs they bear or their gilding with scientific sounding names, such as verbal encoding, figure ground perception, visual motor integration, etc., such practices which Bateman has hailed as being in the vanguard of the new scientific pedagogy direct themselves to the training of reifications. It would be most unfortunate if the teacher of the emotionally disturbed, who is just now beginning to free himself from the hold of mental health reifications, would come under their sway.

It is in the mental health area, perhaps, where the struggle for independent practice and recognition has been the hardest for the special educator. His educational provenance here has been like that of ancient Bohemia or Poland--subdivided, claimed, and fought over by others. It is one in which he dwelt but did not command or rule until lately, and one to which his claim remains insecure. It is here that only recently he has justified his role and work as being valuable in and of its own rather than in an ancillary status, where he still has to keep from being submerged as the very, very junior member of the interdisciplinary team. It is here, too, that in the past he has had to struggle with, and often submit to, alien reifications--those from clinical psychology, neurology, and, of course, psychiatry; reifications which resulted in numbers of untaught, if thorougly therapized, students. Small wonder that he now seeks new myths and reifications by which to live, and through which to develop and maintain his professional elan; hence his susceptibility to the myth and reifications of "ability" training.

Let us examine, now, the reifications that the special educator of the emotionally disturbed child has had to live with in the past so that we more effectively can understand the present and anticipate the future. Some are good and some very, very bad. Some are held in common with other special educators. Almost all not really relevant to his educational work with emotionally disturbed children.

How many of us still recall the term "learning block" which was used to explain almost every reading problem that would not yield to remedial reading on a once a week basis group session--a reification that justified cessation of teaching efforts and referral to a child guidance clinic.

Other reifications used to explain why Johnny couldn't read or learn were his "emotional problem," fear of success, or oedipus fixations, the implication being that if some professional, usually one other than the teacher, who was allowed to abdicate her responsibilities with a sigh of relief, could excise these with his psychotherapeutic knife, the afflicted pupil could begin learning and soon would catch up with his peers in achievement. How many youngsters had their school days repeatedly disrupted and their education delayed so that they could go to be cured of such reifications?

There were and are many reifications given to, forced on, or eagerly sought by the educator working with emotionally disturbed children, all explaining much and helping little, and often delaying the crucial educational contribution that the teacher had to make to help a child whose "emotional" difficulties were hindering the learning process--often keeping the teacher from teaching. A famous chapter in The Psychoanalytic Study of the Child, by Gerald Pearson (1952) once served as gospel to a large number of those professionals engaged in work with emotionally handicapped children for a large number of years. It presented a vast variety of these blocks, all purportedly preventing children from learning effectively. The scope of Pearson's work is awesome. Its implications for the teachers struggling to teach the emotionally disturbed child were overwhelming; small wonder that the teacher of such children was glad and relieved to give others in the mental health professions the responsibility for their charges. But how many use this treatise today to guide their efforts? Once dogma, it is now a period piece.

The teacher of the emotionally disturbed child shared and still shares other medical and psychological reifications with teachers of other types of handicapped children, e.g., brain injury, aphasia, minimal cerebral palsy. The author does not intend to imply that these terms are without legitimate empirical referents. However, these and other similar ones tend to lose their factual anchorage through use. They become abstractions, then are reified and in their reified form are loosely employed in ways not justified by their factual referents. Such reified taxonomia and their subreifications have spanned a number of years and spawned a variety of training practices, from isolation booths to modern day perceptual training.

We cannot fault all the mental health, medical, and psychological reifications discussed above. They have done much that has been good for special education and special children. They, indeed, very much helped shape special education as a distinct disciplinary endeavor within general education. They gave it its raison d'etre, provided it with specialized, if borrowed, concepts and helped to move it to a commanding position in respect to numbers, financial support, public recognition, and esteem. Such reifications helped turn special education classes from isolated vacuums, protecting the normal child from the handicapped, into programs of education purposely directed to therapeutic and remedial ends. By their nature, however, they were and are educationally alien concepts providing little to aid the educator in the monumental job of training children whose difficulties resist conventional teaching approaches.

In response to their educational inadequacies, it was natural that special education, increasingly aware of its puissance as an independent area of professional endeavor, would attempt to meet the challenges of the handicapped children in its own vein. These, however, threaten to commit it to the reifications of ability training. In many training institutions engaged in the preparation of teachers for work with emotionally disturbed children, a great deal of preparation is being provided in the area of learning disabilities, diagnostically and remedially. This may well create a generation of pseudo scientific special education technicians, rather than teachers, and, instead of reinforcing special education as a discipline allied with, not dominated by, other professions, has already laid the field open for invastion and preemption by other professionals, optometrists, and occupational therapists, among others, who are now claiming educational roles.

Ability Training

Let us now examine some of the issues of ability training in greater depth, for the purpose of clarifying objections to it. Ability training does represent a valid recognition that people are different not only in interpersonal comparisons but also intrapersonally, that the maturation process is uneven for many, and that the individuals can rarely be said to be equally able or equally impaired, in all areas of learning or performance. The exceptional child, of course, often presents a picture of uneven performance, highlighted by particularly severe deficits in this or that test performance or school achievement which contrasts with reasonably adequate or even above average performance in others. It is impossible to argue with the fact that such differences do exist and that education must take cognizance of them in its endeavors; the thrust into prominence of the field of learning disabilities in effect represents a particularly salient response to the challenge posed by this unevenness.

But recognition of certain phenomena does not necessarily lead to their valid interpretation. Ptolemy, the Egyptian astronomer, did in fact observe that the sun moved around the earth and saddled science with the geocentric conception of the universe for many generations. Quite similarly, the recognition that learning disabled children perform unevenly on "ability" tests and measure by no means tells us why they have performed unevenly, or gives us direct indications as to how to improve their also generally uneven school achievement. Such recognition certainly does not warrant or justify training programs designed to improve performance on those (ability) tests, if we are interested in improving such childrens' academic performances, Yet this is exactly what differential ability training programs such as Frostig's suggest.

Ability training programs, further, are based upon tests which are presumed to differentially separate and evaluate individuals' abilities in areas of language, cognition, or what have you. Yet there is little evidence to indicate that these tests measure what they are intended to measure, e.g., verbal encoding, decoding, or whatever. Names as these appear to be attached to the tests on the basis of appearances, e.g., "This or that test looks as if it measures so and so, so we'll call it so and so." It is faulty reasoning to assume that a person's responses to tests can be properly labeled or identified by the names assigned to the tests, that the responses to the tests are generated by mental processes corresponding to the tests' names, e.g., that a response to a "figure ground" test is a "figure ground" response. All we can receive as unarguable information from such tests is how the people scored on them and the statistical relationships of their scores with other variables. To train on the basis of what these "tests" have revealed is to train a child to improve his test performances--not any of his basic abilities. To imply otherwise is to naively surrender to reification practices. If we examine ability tests closely, we see they can be labeled with many other names besides those chosen by the test producers. If relabeled, would this mean that the tests would be measuring different abilities and that we should have different training programs on the basis of the tests? But of course not: we are always and only testing persons, and tests only give us scores. If we forget that, we lapse into errors of practice from which we may emerge only after great cost to our charges.

Now, education and educators have long lived with the notion of "abilities" in respect to academic achievement. We talk, for example, about arithmetic and reading ability, language skills, reading readiness--reifications all; our aptitude and achievement tests reflect this type of reification practice. Indeed, it is easy to forget that what we are talking about when we consider "abilities" are really pupils' achievements in various curriculum areas; that we are not really assessing or training separate processes which exist somewhere in pupils' brains, but all we have as facts are pupils' achievements in certain courses of study or their scores on certain tests. Many errors have been committed by teachers, parents, and pupils in their educational commitments and noncommitments when they have proceeded on the basis of this or that "ability" or lack of it, e.g., girls popularly have been supposed to have less arithmetic ability than boys and often have been mishandled accordingly. But at least curricular reifications deal with educational realities, those of a child's progress or lack of progress in school. And when we train on the basis of arithmetic, reading, and other curricular ability reifications, we are training children in areas that are relevant to their learning experiences and their academic achievements. We remain in the educational ball park. Our reifications are operationally defined and circumscribed by boundaries which limit the misuse always implicit in reifications.

However, the reifications that we deal with in present ability testing assessment and training in special education as exemplified by names such as auditory decoding, grammatics, figure ground perception, and so on, are of an entirely different variety. They are not bound by the constraints of academic achievement, only by the imagination or hypotheses of the test maker. They distinctly imply basic organismic processes which correspond to and are elicited by the tests, real "thing" like structures, whose acquisition and development are necessary of and for themselves rather than for immediate educational goals, which can and are to be trained like mental muscles so as to ready the learner for later academic achievement. For example, we would train figure ground perception for reading, vocal encoding for proper language usage, and other basic "abilities" to ready a child for the acquisition of the second order skills of spelling and arithmetic.

Since such abilities as figure ground perception, auditory encoding, etc., do not exist and are simply hypothetically fleshed out abstractions, they cannot be trained and it is time that efforts be directed away from them into formal curricular training or preparation. Indeed, if such reifications were real, they could be trained within the confines of academics: visuomotor integration through writing, figure ground perception in reading, gross motor skills in physical education. And without the waste of time and effort that is involved in direct ability training. Further, if we could assume that separate abilities, such as in perception and language, can be legitimately defined and trained, how would we be sure that we are training the right abilities and not excluding more important ones if we relied on ITPA, Frostig, and other tests to select the "abilities" to train. Even if the abilities that we selected through such tests were the proper ones to train, how would we know that the tests appropriately measured them, in amounts, degree, etc.?

We could go on in our discussion, but the issues of this paper are clear: they deny the validity of establishing training programs on the basis of "ability" tests because ability tests cannot be relied on to give us appropriate information for such training (a) on the basis of the limitations of the tests themselves, and (b) more importantly, the limitations of the entire notion of ability training.

This being so, let us consider our tasks in special education. Let us recognize that in pursuing the goals of basic ability training we pursue a myth and that we may be committing ourselves to training children to do better on tests that are essentially irrelevant to academic learning. Then consider: do we want children to learn how to do better on the ITPA, or to speak and comprehend better? Do we want to concern ourselves with better scores on figure ground perception tests or in reading, with visuomotor coordination or with writing? Do we want to teach children or train reifications?

Tests can offer useful information diagnostically to the educator but the educator's goal must be to teach utilitarian skills or academics. This does not mean that teachers of the emotionally disturbed are to be confined to the perdition of doldrum ridden hack teaching, for we have much that is exciting to explore, learn from, and be challenged by in educational technology and theory. If behavioral modification techniques have taught us anything, it is to observe what we are doing and what our pupils are doing and to adjust the former to maximize the potentials of the latter. There are many strategies and theories for teaching the emotionally disturbed available to educators that are relevant to teacher. We can experiment with prescription learning (Peter, 1965), criterion learning (Bloom, 1968), Engelmann's artificial but potentially useful conceptual fractionation (Engelmann, 1967), Gagne's concepts of hierarchical learning (Gagne, 1965), or behavioral objectives in other theories. Very exciting prospects are raised by these and other promising educational approaches.

Teachers of emotionally disturbed children have been partly emancipated from the dominance of mental health professions and concepts. They have found more and more that these professions and concepts can be used to guide them in their teaching, but cannot be used to teach with. We can use the various ability tests, too, to suggest to us possible pupil weaknesses, but we cannot teach to or by them. We must teach for the acquisition of educational skills and contents. Let us not surrender our worn mental health reifications for other invalid ones. The job of education is to teach learners, not abilities.

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THE TRAINING OF TEACHERS OF DISTURBED PRESCHOOL CHILDREN

by

Jane Schwertfeger and William C. Morse

Research

The objective of the research program was to measure change in the trainees as a result of their experiences in the program and to use these findings to recommend a training program. Selection of criteria measures which adequately sample the great range of personality, attitude, and performance characteristics of the trainees is a difficult job. We began this job by administering a series of tests to the trainees on arrival, which tapped personality characteristics (Adjective Check List, Minnesota Multiphasic Personality Inventory, and California Psychological Inventory) and educational attitudes (Semantic Differential, Teacher Practices Questionnaire, and Teacher Opinionnaire).

Individual and group profiles were designed using selected dimensions of these tests. In addition, our sample of 19 is being compared with a sample of 124 student teachers of the emotionally disturbed who trained at the University of Michigan to see whether there are any significant differences in mean scores. A factor analysis was performed to determine how the variables clustered together and to reduce the number of variables to workable size.

The trainees wrote autobiographies. These were coded to yield scores on ego strength, adaptability, creativity, self awareness, and commitment to the program. These autobiography dimension scores are being correlated with relevant scores from the personality battery.

With the exception of the Minnesota Multiphasic Personality Inventory and the California Psychological Inventory, the test battery is readministered at the end of the first and second years. Since the posttest data are incomplete, only exploratory analyses have been performed to date. A display of change scores on the variables which show most change has been completed for the first group.

The impact of academic coursework must also be assessed in attempting to measure change in the trainees. As we have seen, one of the distinguishing characteristics of our program in comparison to other training programs is the emphasis on academic coursework. To measure the reaction of the trainees to the special seminars, all sessions were taped and a sample of these tapes was coded. A very quick summary of the students' reactions to the classes follows: 81 percent of the students' responses were concrete statements or questions; 7 percent were abstract questions or statements, and only 11 percent implied rejection of messages emanating from the instructor or other students. Further, 56 percent of the responses were related to children and 53 percent of the total responses referred to socioemotional area. A tally was also made of the nature of each individual's participation. Three areas were tapped by this procedure: (a) assessment of conceptual input to the student, (b) assessment of student reaction to this input, and (c) assessment of group dynamics in this learning group.

In evaluating this material, we learned that despite the considerable individual differences in the trainees, these differences did not emerge significantly from a detailed analysis of classroom participation. We used the data and reactions of the students to improve the seminars, but decided not to pursue the taping further because of the considerable expense and time commitment involved.

In addition to the taping several supplementary measures were used. Students evaluated all their courses with regard to their general interest, academic level, theory relevance, and practical relevance to working in the classroom setting. Detailed evaluations were made of the students by the instructors in addition to the traditional examinations and grades. Finally, the students have an opportunity to react to the input of their coursework as a whole during individual interviews conducted at the end of the first and second years.

The most complex and most important area to assess accurately is the trainees' performance in the preschool settings. Existing instruments for classroom observations were difficult to adapt to our needs because we required:

1. An instrument which was appropriate to the activities and interactions typical of the preschool classroom.

2. An instrument whose major focus was on the teacher's verbal and nonverbal behavior.

3. An instrument whose dimensions were conceptually relevant to our project, or, failing that, a system of discrete tallies that could eventually be meaningfully interpreted.

Since we could not find any single instrument that satisfied these requirements, we used a combination of instruments. The OScAR (Medley & Mitzel) was used to tap verbal interaction. In addition, we have designed two other instruments. The Observation Rating Scale concentrates on evaluating such teacher behaviors as warmth, patterns of management intervention, and skills in communicating with the helping children. The Nonverbal Rating Scale developed this year measures the amount and kind of nonverbal interaction.

Over the course of the program an effective method was developed for making these observations. Two observers were trained together on the instruments and tested for reliability. The trainees were observed four times a semester for an hour at a time. The trainees wore a cordless microphone which permitted taping of all verbal interactions with maximum accuracy and minimum intrusive presence in the trainee's field. Three 5 minute segments of the tape, selected at random, were coded using the OScAR.

The Nonverbal Interaction Scale was coded while in the classroom. Three 5 minute segments were used which were meshed with the verbal interactions. The Observation Rating Scale (ORS) was coded immediately following the observation.

The OScAR and the ORS have been factor analyzed. The dimensions which emerged even from the preliminary data seemed to support the conceptual validity of the scales. Dimension scores were derived for each subject and the results compared with ratings made by the trainees' supervisors.

The supervisors rated their trainees four times during the semester on an instrument we designed called the Supervisor Rating Scale. When factor analyzed in an exploratory analysis, this scale yielded factors such as ease and warmth with children, group skills, and cognitive orientation. Pearson rho correlations were performed on the dimensions derived from the Supervisor Rating Scale, ORS, and OScAR. The results are too complex to report here but there was general agreement varying in significance where hypothesized on overlapping dimensions from the several scales.

An exploratory regression analysis was also performed, using corrections for the small sample size, to see if it were possible to predict performance in the classroom from selected pretest personality and attitude variables. The results of this preliminary analysis were very good in that several of the combinations of predictor variables accounted for 60 percent or more of the variance. We are anxious to pursue this analysis further when the rest of the data is collected.

To summarize briefly, the research program has been concerned both with developing instruments and procedures suitable for our needs, and with measuring change in the trainees due to their interactions with the program. Because of the small sample it is possible to examine this interaction in detail on an individual basis. The growth in teaching skills is moderated along with changes in the individual's self concept, including such variables as self awareness, flexibility, and feelings of self confidence.

By a year from now we will have complete data and be ready to make more definitive statements.

These statements appear important at this point:

1. Although our sample is small we are encouraged that the close look we have been able to give already has suggested some significant trends and training suggestions. We have partially solved some of the data collection challenges.

2. Analysis of preliminary data on the Supervisor Rating Scale and The Observation Rating Scale in combination with the OScAR (Medley & Mitzel) and with selected pretest personality and attitude variables indicate that several combinations of predictor variables accounted for 60 percent or more of the variance. This makes us anxious to pursue further work on these completed data.

3. Our hunch that there would be wide variation in individual student competence and personality and attitude variables, and that this individual "style" permeates much of a student's production in the three major training areas (academic coursework, the internship, and special seminars), suggests that we look closely at these data in these ways: (a) rank order students on different instrument dimensions and correlate similar dimensions across instruments (this will help us see where we are getting different or overlapping results); (b) or concentrate upon dimensions across instruments that are conceptually relevant to our study, variables we have tentatively selected as important to understanding changes in the trainees would be ego strength, selfawareness, creativity, and flexibility.

Training

Theoretical orientation. The orientation for this training program has been drawn from the past experience of the directors and from the orientation of two theorists: Biber, "Training as a Personal Development," which can be found in Prevention of Mental Disorders in Children, Caplan (1961), and Combs, The Professional Education of Teachers (1965). These together present a unified theory.

The essence of these positions is that the professional role evolves from an individual personal configuration rather than by imitation of an external model. The process of absorbing information and methodology is a consequence of compatibility with the self concept. The goal of the training process then, is seen as the enhancement of the use of the self as an effective instrument in working with children (Combs, 1965). Competence is not in a set, uniform pattern with clearly definable external standards; it does not follow by inculcation of a given response repertoire or simple development of new qualities through imitation of the master. Rather, it involves the learning of a variety of concepts and skills in terms of the discovery and relationship to personal meaning (Combs, 1965).

Specific patterns of functioning in different teachers are, to a considerable extent, unique. Teachers judged to be successful in working are often far from identical (Cohen et al. in Knobloch, 1966). This may partly be a consequence of poor definition of the teaching process, which yields variance due to our lack of specific knowledge concerning what is the single most correct thing to do given common goals, or it may be that there are several "almost as useful ways," each suited to the total impact of a particular person (Gage, 1963). But it is also evident that not every style of behavior or set of responses is equally telling in producing particular changes in children. There are obviously parameters beyond which idiosyncratic role development should not go, at least according to mature professional judgment. However, when one considers the current theories of treatment, ranging from electric shock to regression encouragement, they suggest that the field still recognizes authorities with highly divergent concepts of how teachers should behave.

We thus hypothesize that the effective integrating core is training that has the enhancement of an individual's potential as its goal. A good teacher is a unique personality. The appropriate task of training is to help her discover her own idiom within the intellectual and social context which we call education. In these terms, the training sequence is never actually identical for any two students. The psychological meaning of the work will be mediated by the nature of the self of each student.

Procedure. To date the program has provided 2 year (4 term) training for 19 graduate students registered in the Rackham School of Graduate Studies, University of Michigan. Four persons have graduated from the program (spring, 1968), 10 are currently enrolled, and 5 students will complete their training in the spring of 1970. The students have ranged in age from 21 to 37 years. The majority are immediately post B.A. students. They have had none to 5 years of teaching experience although most have had some work or student contact with children.

Training program. All students have been admitted to the Rackham School of Graduate Studies and are enrolled in regular degree programs. While there is a minimal prescribed program, considerable opportunity for individualized planning exists. The training involves a sequence which can be tailored to meet past experiences and future professional goals. The degree and certification possibilities are specialist in education degree (54 hours) and masters degree (30 hours) plus certification (elementary, special education, and nursery school). The specialist degree is encouraged when possible. In case of no previous certification, a masters degree and appropriate certification is suggested. An effort is being made to evaluate and guide students individually.

Special effort has been made to individualize a student's pr[illegible]am as much as possible; it is done in these ways:

1. Match field experiences to supplement student experience providing a variety of normal and exceptional contacts in schools.

2. Select appropriate education and cognate coursework to provide understanding of normal and deviant development, provide exposure to a variety of curriculum and teaching methodology, and encourage thoughtful assessment of these. Aid the student to work toward appropriate professional competence such as certification and degree completion.

3. Provide small group and individual supervision of the student in internships with opportunity for personal and professional support and counseling.

4. Provide exposure to as many professionals and professional settings as possible--site visits, consultant contacts, and seminars.

There are three aspects to the current training sequence: election of regular graduate courses, seminars specifically designed and offered for this program, and the field experience.

Representative general coursework. All students have elected Education C530, Mental Hygiene of Childhood and Adolescence (2 hours), Morse. Other elections have included courses in psychology, sociology, English and speech, and electives in education.

Special seminars. Seminars have been offered exclusively for these students. These are: (a) C635, Seminar in Mental Hygiene of Childhood and Adolescence (2 hr.), Term I, Wright; (b) C635, Seminar in Mental Hygiene of Childhood and Adolescence (2 hr.), Term II, Waggoner; and (c) D522, Seminar in Education of the Exceptional Preschool Child (2 hr.), Schwertfeger.

Students have elected 12 hours of coursework per term, divided among electives in education, special seminars, cognate electives, and the internship.

The internship. Each student spends the major portion of one term each year in an internship, the other in academic study. The core of the training rests in the K690, Practicum and Field Experience. This internship includes a variety of experiences ranging from extensive work on a one to one basis with a child to total group teaching. Requirements have varied somewhat from place to place. They have included keeping written and planned behavior records, keeping daily experience logs, planning and carrying out curriculum programs for children, visits with the teacher to the children's homes in one setting, and attendance at parent meetings in another. Certain settings have required written papers or individual case studies. The project has shared autobiographical information with the supervising teachers and attempted to keep close contact with them and the student's work. Student's progress and individual problems have been monitored by telephone and individual conferences, visits, and written memos. Each student and teacher has had at least one planned weekly conference; in many instances they have attended school and clinic meetings.

A training assistant works with the student and the supervising teacher. She observes the setting, confers with both student and supervisor, and holds a monthly group seminar centering about this experience. She works to clarify and simplify the experience and to clear staff communication.

In addition to formal coursework, students participated in field visits and study and attended education, psychology, and other University colloquia and state and national conferences.

Graduates. To date five students have graduated. Three have obtained masters degrees in educational psychology, and two have the specialist in education degree. Two specialist research papers have been presented and accepted for degree credit.

All graduates are employed. Two are teachers in therapeutic preschools for disturbed young children. One is a teacher in a federally sponsored research project in a public school which is carrying out an intervention program for disadvantaged and disturbed children. One (a one year dropout) currently is a teacher of English at the junior high school level.

TRENDS AND ISSUES IN PLACEMENT AND ORGANIZATION FOR INSTRUCTION IN SPECIAL EDUCATION PROGRAMS

by

William F. Brazziel

I see a glimmer of hope on the horizon for the more advanced communities and I would like to share this hope with you. Hopefully, over the years, more and more school systems will take a good look at the situation regarding black children and the special education programs in their schools.

Leonard Blackman and Paul Heintz analyzed the research on mentally retarded children for the February 1966 issue of the Review of Educational Research and Herbert Prehm and James Crosson analyzed it for the February 1969 issue. Both teams noted a great deal of controversy and confusion involving testing, classifying, placing, and teaching mentally retarded children. Add to this the fact that black children who are poverty stricken do very poorly on standardized tests and we can easily see why we must look further into the situation.

The big issues in the controversy have to do with whether or not a given child is severely deprived or neurally handicapped. If he is severely deprived, can we bring him up to a normal level of operation with a special program? If so, what will this program consist of? Who is going to decide that he is deprived and can be brought up to standard? What instruments will be used to test him? Is it better to place him in a special class or leave him in the regular class?

The most heartening trends have to do with the emphasis on preventing physical and maternal deprivation through family planning, prenatal diet and care, infant diet and care, infant stimulation, preschool education, and relief of isolation of lower class children. It is here, I believe, that special education can make its biggest contribution. This means that we can no longer wait for our clients to come to us in kindergarten, first grade, and Head Start programs. We must literally begin to work with the child when he is but a gleam in his father's eye.

Testing and placing black children in special education programs is our knottiest problem today. Too many borderline cases are placed in the programs on the basis of a single IQ test although psychologists have insisted for 20 years that these instruments don't do a good job with deprived children, black or white. In the big IQ controversy currently raging, Arthur Jensen has even gone so far as to insist that the disadvantaged black child's mind works differently.

Jensen may have been overstating his case but the point itself is worth noting. Children score best on tests who are of the same race, ethnic group, and income level of the committee that made up the test. I always think of about a 10 point correction factor when dealing with these children and I would neve place one in a retarded category on the basis of a single test score or on the basis of several test scores if the latter are near the cut off point for placement.

Some of the greatest ferment can be found in the area of instruction. This has always been an issue. Orville Johnson noted in the October 1962 issue of

Special Education that retarded children enrolled in special classes achieved significantly less than comparable children who remained in the regular grades, despite small class enrollments, high costs, and specially trained teachers. He indicated that these negative finding could be attributed to teacher education programs which stressed the inability of the retarded child to learn anything.

There seems to be a similar problem with our track teachers in regular school classes and with teachers who have a mind set regarding low IQ children generally. This is coming to be known as the Rosenthal effect after Robert Rosenthal's and Lenore Jacobson's book Pygmalion in the Classroom.

The problem here is that children must have certain increments in knowledge each year to score well on tests. If a borderline child is placed in a special education class with a nonteaching teacher, after a year or so his test scores will have declined to the point where he really is retarded because of the miniscule amount of information he has received. This is one of the greatest challenges facing the teaching profession today.

Some exciting new programs for working with young children are now being tried on a rather large scale. The US Office of Education is leading the way with its follow through program and the NIH Complex is doing some fine work on early stimulation. Some of the programs now being tried include Bereiter-Engelmann, Montessori, Bank Street College, and the Institute for Developmental Studies of NYU. Work on the role of good nutrition is also underway at NIH.

It seems that a progressive school system will in the future be one that has a broad, strong prevention program, although it will probably have another name. Such an effort will include:

1. A program to help mothers plan their families and space their children.
2. A program to assure pregnant mothers the proper proteins and minerals.
3. A program to assure infants the proper proteins and minerals.
4. A program to assure infants and toddlers the proper mental stimulation.
5. A program to enroll children who need it in nursery schools and day schools that teach.
6. A prekindergarten, kindergarten, and early elementary program that is one nongraded unit assuring continuous learning and progress.
7. A school program that does not isolate children of families with modest incomes.
8. A corps of teachers who are free of racial and social class prejudices.

As we can see, such a program will require good cooperation from almost everyone involved in the social service area. It will also require money. In some of the most affluent communities with tiny numbers of poor people, it may be possible to gain financial support from state and local funds.

For most American communities, however, we must push hard for federal support. I suggest that we urge our representatives in Congress to pass legislation and appropriations for such a program. Money would have to be authorized and appropriated for the following areas of the program:

1. Family planning.

2. Prenatal and infant diet and care.

3. Infant and toddler stimulation.

4. Nursery schools and day care center.

5. Expansion of Head Start to include 100 percent of the eligible children in year round programs instead of the 10 percent now enrolled.

We must also change our teacher training programs to some extent. I believe special education teachers are more warm hearted than most, but I believe they are still taught that IQ scores are the be all and end all in the assessment of the abilities of children. In other words, they fall prey to the Rosenthal effect. This must be changed and a greater faith in the plasticity of the intellect must be generated.

Education professors and supervisors in school systems also teach teachers that ability grouping and tracking must prevail or the schools will crumble. Most of these professors and supervisors spent their entire school careers in untracked and ungrouped classrooms. A large proportion who attended schools in small districts never had a standardized test. I believe they were very, very fortunate. They were never denied access to the very best learning the schools have to offer. Poor children don't do well on tests and they are denied this access. Somehow, we must get school supervisors and education professors to take a look at what they are doing.

The next five years should bring much ferment to this area. Much of the push will come from poor people themselves. I hope people in special education will gain deep insights into the nature of the forces at work. I hope they will keep their newly gained perspective under the stress of the pressure for change. I think there is much that special education can do to help develop a larger proportion of alert, educated black citizens. I hope we can join forces to bring this about.

COMMUNICATION DISORDERS

ABSTRACT

AUDITORY SEQUENCING FUNCTIONS IN NORMAL CHILDREN AND CHILDREN WITH LANGUAGE AND LEARNING DISORDERS

by

James L. Aten, Cheryl Caldwell, and Janet Hirschberg

The capacity for perceiving and retaining serial information presented auditorially is basic to normal language learning and academic progression in school. Despite the present awareness of the importance of the auditory modality for normal language acquisition, few objective measures of children's abilities to perceive and process auditory information of various types have been developed. The few instruments that are available, such as the Peabody test, do not measure retention and storage of serial items of information, or auditory memory for sequence, as we shall term it. This presentation will report on our attempt to develop a battery of verbal and nonverbal tests which purport to measure deficiencies in the perception and retention of serial auditory stimuli.

The four nonverbal tests measure the four parameters basic to the perception of speech (loudness, pitch, duration, and rhythm). The auditory stimuli for each of these tests requires the child to discriminate between loud-soft, high-low, short-long, or single-double tone during a training period, then to make sequential judgments of the order of variation as the sequence is lengthened to a span of five.

The four verbal tests measure the ability of the child to retain serial phonemes, words, sentences, and scrambled words to be rearranged in proper syntactical order. With the exception of the last task, all of the tests required only a manual (pointing) response.

Thus far the experimental battery has been administered to 30 normal children ranging in age from 5 to 8 years of age and to a heterogenous group of children with speech, language, and reading problems. The results are discussed in terms of: (a) nonverbal and verbal comparisons; (b) the correct mean number of items retained on each test; (c) the memory span level of the various subgroups of normal children by 6 month age intervals; (d) the types of phonological, morphological, and syntactic errors noted; (e) the ordinal position of errors within each type of stimulus presented; and (f) the overall progressive development of auditory sequential skills by age and grade placement. Brief comparisons are also made between the normal children and children who have been designated as having various pathologies of learning.

BEHAVIOR THEORY AND STUTTERING: PRINCIPLES AND TECHNIQUES

by

Robert T. Wertz and James Aten

Bloodstein (1959) has divided the many theories advanced to explain the cause and nature of stuttering into three major groups, based on the kind of behavior stuttering is assumed to represent. The first classification, the breakdown theories, attempt to explain why the child's speech disintegrates or falls apart. Generally, stuttering is viewed to arise from some traumatic environmental event. The child, however, is assumed to be "predisposed" to breakdown as a result of the stressful event, this predispostion stemming from an underlying organic factor rather than learning. Theorists supporting this view are Eisenson (1958), West (1958), and, in part, Van Riper (1963).

The second classification, repressed need theories, views stuttering as the result of a subconscious desire to stutter. The overt symptom, stuttering, is the result of unmet unconscious needs. There is little agreement concerning which needs stuttering satisfies. Some theorists suggest that stuttering grows out of the need for oral erotic gratification, others suggest it is an attempt to satisfy anal erotic needs, others view stuttering as an expression of hostility and aggression, and still others suggest that stuttering represents an unconscious desire to suppress speech. The work of Blauber (1958) and Travis (1957) are examples of the repressed need theory.

The third classification, that stuttering is an anticipatory struggle reaction, suggests that stuttering results when a person expects to have difficulty talking. The reaction to the expectation is a tensing of muscles, holding back, and forcing. The anticipatory struggle hypothesis grows out of the diagnosogenic theory developed by Johnson (1955, 1959). Johnson believed that stuttering resulted when laymen, usually parents, diagnosed the child's normal hesitations and repetitions as stuttering and the child, in turn, adopted his parents' evaluation. The child attempts to avoid normal nonfluencies and the result is speech characterized by tension and anxiety. This "hesitation to hesitate" is stuttering. Williams (1957) has elaborated Johnson's views by suggesting that stuttering is what the stutterer does to keep from stuttering. Bloodstein (1958) also supports the anticipatory struggle hypothesis.

The concept that stuttering is the stutterer's effort to avoid stuttering can be seen in the several learning approaches to stuttering. Wischner (1950, 1952) assumed that stuttering was a learned response and, therefore, reinforced by some kind of reward. His analysis of the moment of stuttering led him to believe that prior to the actual block there was a buildup of expectancy and fear. The immediate effect of having the block was a reduction of anxiety. Although the stuttering block had punishing consequences, the immediate effect was a reduction in tension and anxiety. Wischner has likened stuttering to "instrumental avoidance" learning in animals which is extremely difficult to extinguish. The stutterer believes he has to do something to combat his fears of stuttering. What he does is what the listener identifies as stuttering.

A second learning approach to stuttering has been developed by Sheehan (1958). His theory is based on the approach-avoidance conflict theory developed by Miller (1944). The conflict for the stutterer is between the opposing drives to speak and to hold back for fear of stuttering. Three conditions grow out of the approach-avoidance conflict. In one, the desire to speak is stronger than the desire to avoid speech, and the stutterer speaks fluently. In another, the desire to avoid speaking is clearly dominant, and the stutterer is silent. In the third, the desire to speak and the desire to avoid speech are equal, and the stutterer stutters.

Shames and Sherrick (1963) have suggested that stuttering can be viewed as operant behavior. Basically, these authors view stuttering as being maintained by both positive and negative reinforcements which operate on complex, multiple schedules. Further, they feel it is possible to define both stimulus and reinforcement in stuttering behavior. This view has been used to explain the so called "secondary symptoms" (eye blinks, head movement, fist clenching, etc.) which the stutterer develops as aids to "get the word out."

Traditional Therapeutic Approaches

Three major therapeutic approaches to the treatment of stuttering have grown out of the major theories. These are: (a) psychoanalytic techniques--directed toward a verbalization and modification of the stutterer's feelings about himself and others; (b) attitudinal techniques--directed toward a modification of the stutterer's thinking about his disorder and speaking in general; and (c) symptomatic techniques--directed toward a modification of the stutterer's overt speaking behavior. These approaches have failed frequently to alleviate stuttering. The psychoanalytic approach concentrates on general anxiety and fails to consider the stutterer's specific anxiety associated with his speech behavior. Attitudinal therapy appears to be overly thought oriented, ignoring the psychological and physiological correlates arising from anxiety. Symptomatic therapy is directed toward the physiological moment of stuttering, and excludes the anxiety reactions which precede and are continuously linked with the stuttering behavior.

Behavior Theory

Recently, therapeutic procedures with stutterers have been increasingly influenced by what is generally called behavior theory. In contrast to the more traditional approaches, behavior theory attempts to recondition reactions deriving from autonomic responses that have been classically conditioned to aversive stimuli. These reactions involve various responses of the automatic and central nervous systems. In the late 1940's Wolpe (1948) formulated the concept of reciprocal inhibition. He suggested that

> If a response antagonistic to anxiety can be made to occur in the presence of anxiety-evoking stimuli so that it is accompanied by a complete or partial suppression of the anxiety responses, the bond between these stimuli and the anxiety responses will be weakened (Wolpe, 1958, p. 71).

This concept has evolved clinically to mean that disorders with etiologies based in anxiety can be treated through establishing responses antagonistic to anxiety (e.g., relaxation) in the presence of the anxiety evoking cues. The use of reciprocal inhibition techniques with stutterers assumes that stuttering is etiological to an elevated state of verbal anxiety. The working hypothesis is that the stutterer stutters only when anxious and not when relaxed. Opposing anxiety with relaxation, therefore, should result in reciprocal inhibition (elimination) of the stuttering behavior.

Brutten and Shoemaker (1967) have formulated the most detailed behavioristic approach to stuttering. Their model presents a two factor approach to stuttering. They have considered not only the classically conditioned autonomic behavior (negative emotionality associated with fluency failure), but also the more obvious instrumentally conditioned overt symptoms (voluntary attempts to overcome the autonomic arousal). Factor I describes the classically conditioned negative emotionality associated with fluency failure as developing through a series of stages. In the final stage, fluency failure has become stuttering. The individual has developed classically conditioned negative emotional reactions to the act of speaking, the words employed, and even the anticipation of dysfluency. Factor II describes the instrumental behavior directed toward coping with the negative emotionality arising from Factor I. These behaviors are voluntary attempts to regain fluency and eliminate the autonomic arousal and associated negative emotionality. The instrumental part of stuttering is avoidance or escape behavior (speaking on inhalation, taking a deep breath, pursing lips, head jerks, etc.) utilized to avoid the negative emotionality associated with fluency failure.

The Moment of Stuttering

The two factor theory of stuttering not only recognizes that two learning processes are operative in stuttering behavior, but also provides a means for a more thorough analysis of the moment of stuttering. Traditionally, the moment of stuttering is described on the basis of observable auditory and visual behavior. The two factor theory suggests that the moment of stuttering is comprised of both covert responses (classically conditioned behavior) and overt responses (instrumentally conditioned behavior). These responses can be explained as a specific series of temporal events.

Using the two factor theory, stuttering can be described as beginning at point A (prestuttering), silence or fluency; moving through point B (onset of Factor I behavior), where the cue to speak evokes conditioned negative emotionality associated with past fluency failure; moving through point C (Factor I plus onset of Factor II behavior), where there is an increase in negative emotionality plus the onset of adjustive behaviors as the need to speak grows; through point D (Factor I plus increased Factor II behavior), where maximum negative emotionality is accompanied by overt instrumental attempts to speak; and, finally, through point E (spontaneous reduction of Factor I behavior and termination of Factor II behavior), which results in a reduction of negative emotionality following the termination of attempts to consciously control speech (stuttering).

The moment of stuttering, when categorized into a series of temporal events, has both theoretical and therapeutic implications. Traditionally, much of the moment of stuttering has been ignored. The traditional view as espoused by most stutterers and some clinicians is as follows: first, "I go along O.K."; second, "it happens"; third, "certain words won't come out"; and then, "I'm over it and hope it won't happen again." The more insightful stutterer, however, describes the following: first, "I feel O.K."; and then, "I find I have to speak and I am afraid I'll stutter"; and then, "I feel myself getting nervous and tight and know I'm going to stutter"; and then, "I feel helpless and I do everything I can to get the word out"; and finally, "the word comes out and I'm not as tense but feel embarrassed over what's happened." If the latter description is more accurate, and stuttering includes both Factor I and Factor II behaviors, then the therapeutic approach must include not only reduction of Factor II operant or instrumental behaviors, but also increased awareness and reduction of Factor I classically conditioned behavior. Behavior therapy provides techniques for working with both the instrumental and the classically conditioned behaviors.

Behavior Therapy: Factor I Techniques

All Factor I techniques are designed to eliminate the classically conditioned negative emotionality and specific verbal anxiety that are hypothesized to precede the Factor II instrumental behaviors. Classically conditioned negative emotionality (fear and tension) are eliminated by inducing a positive emotional state (relaxation). The therapeutic approach involves two stages, recognition of anxiety and opposition of anxiety. The basic rationale for the techniques grow out of the learning principle of autonomic reciprocal inhibition or counter conditioning of anxiety arousal (Wolpe, 1958). The adaptation of this approach with stutterers involves (a) the recognition of those cues which evoke specific verbal fear, tension, and anxiety, and culminate in stuttering, and (b) the opposition of the anxiety with a response incompatible with stuttering (i.e., relaxation of the speech mechanism in the presence of the speech-anxiety evoking cue)

The most popular technique used in Factor I Therapy is systematic desensitization based on relaxation. The use of this technique with stutterers includes three distinct steps: (a) a detailed analysis of cues which evoke stuttering (anxiety associated with phonemes, words, situations, etc.); (b) intensive training in systematic relaxation with major emphasis on relaxation on the speech musculature (easy breath flow for vocalization, relaxed onset of phonation, smooth articulatory movements, etc.); and, (c) opposition of anxiety evoking cues with relaxation (imagining cues to speak which normally evoke anxiety while avoiding tension arousal through maintenance of a relaxed state). Systematic desensitization based on relaxation and its use in stuttering therapy has been elaborated by Rosenbek (1969).

A second Factor I technique is reciprocal inhibition through assertive responses. This procedure was developed by Salter (1949) and elaborated by Wolpe (1958). In the case of stuttering, the hypothesis is that stutterers develop anxiety in situations where they feel that they have been put upon or used by other people. The stutterer's response is either one of silence or increased stuttering resulting from an elevation of anxiety. Typically, the stutterer feels that he cannot be verbally assertive because it requires a tool which he does not use very well, speech. In therapy, the stutterer is told that his increased anxiety in conflict situations can be overcome if they are opposed by another, stronger emotion, desire to be assertive. The stutterer is motivated to actual performance of assertive behavior in real life situations through role playing and discussion in therapy. Common situations which require an assertive response (having been given short change, returning a faulty garment, poor service in a restaurant, someone commenting about his speech, etc.) are explored in therapy and a variety of assertive responses are developed and rehearsed. One stutterer we worked with lacked assertion in social gatherings when someone asked why he did not do something about his speech. Having been in therapy for over 14 years, this remark evoked resentment and increased anxiety due to a fear of stuttering in an appropriate response. This patient's usual practice was to either remain silent or agree that he should work harder on his speech. In therapy, he developed an assertive response that inhibited the anxiety and was always delivered quite fluently. When asked why he did not work on his speech, he replied that, "My therapist and I have decided that I need to stutter or I may become homocidal, and you might be the first person I would go after."

Additional techniques which seem to inhibit Factor I negative emotionality are the systematic use of shadowing, delayed auditory feedback, and the use of a click generator. Shadowing, a technique developed by Cherry and Sayers (1960) and utilized by Walton and Black (1960), requires the stutterer to repeat what the therapist has said immediately after the therapist speaks or reads. The patient is instructed to "shadow" the therapist's speech. This technique typically results in an improvement in fluency following several practice sessions. The stutterer is "pulled forward" (perhaps distracted) by the therapist and does not have time to stutter. The usual result of shadowing is a positive carryover into normal conversational speech. The technique can be used to reciprocally inhibit anxiety in specific situations. For example, stutterers who experience specific verbal anxiety when using the telephone can be placed on a systematic schedule of shadowing over the phone during therapy. The stutterer and the first therapist sit in one room and a second therapist sits in another. The stutterer shadows the first therapist over the internal line on the clinic telephone. The second therapist listens to the stutterer and counts nonfluencies. After 20 to 40 sessions (depending on the patient), the number of nonfluencies per session is usually near zero. Following this reduction in the number of nonfluencies, the stutterer begins talking to the second clinician over the phone. A hierarchy of anxiety telephone situations is developed and arranged from least anxiety evoking to most anxiety evoking. Beginning at the bottom, the hierarchy is gradually ascended. The number of nonfluencies at a hierarchial level is the cue used to proceed or continue work at that level. Walton and Black (1960) and the present authors have found that this approach typically reduces Factor I classically conditioned negative emotionality to the telephone and results in an improvement in speech behavior.

Goldiamond (1968), using delayed auditory feedback (DAF), and Beech (1967) using a metronome, have also reduced Factor I behavior. The approach in both cases was to eliminate stuttering through an external auditory stimulus (metronome). Once the stutterer was speaking without stuttering under the influence of auditory stimulation, his new verbal behavior was manipulated to make it sound more normal. In the case of DAF, the prolonged verbalizations used to beat the auditory stimulus were systematically rewarded as they became shorter. In the case of the metronome, the extremely rhythmic speech was manipulated by encouraging the patient to gradually eliminate the rhythm. Attempts were made to combat the frequent situation where stuttering can be reduced in the clinic but there is no carry-over to the real world. Both techniques have utilized portable devices that the patient can wear at all times. When the patient feels speech related anxiety increasing (fears he is going to stutter) he can give himself a dose of DAF or rhythmic clicks until fluency is established and anxiety is reduced. Both techniques are reported to be successful.

Factor II Therapy

Martin (1968) and Goldiamond (1968), using operant techniques, have demonstrated that the Factor II instrumental behaviors can be temporarily reduced through response contingent noxious stimuli. Factor II instrumental behaviors, it will be remembered, are those responses (eye blinks, head movement, etc.) developed to cope with the Factor I classically conditioned negative emotionality. The initial use of operant techniques with stutterers was in the laboratory. Only recently have clinical problems such as generalization to environments outside of therapy been explored.

Martin has utilized a variety of stimuli in an attempt to reduce stuttering in general and so called secondary symptoms in particular. The procedure for each stimulus is essentially similar. Initially, a "base rate," the frequency of the particular response under study, was obtained. Once the base rate was stable, a specific response contingent stimulus, electric shock, was employed. The subject was initially run for a base rate period. Following this, electric shock was delivered contingent upon each stuttering response emitted during spontaneous speech. Response contingent electric shock tended to suppress the frequency of the stuttering response. In another experiment, a specific stuttering behavior was selected as the response class for study. Again the task was spontaneous speech, but the response contingent stimulus was the word "wrong" delivered each time the subject said "uh." After a brief base rate period, the contingent "wrong" was presented for the remainder of the session. The results indicated that when stuttering is defined in terms of a specific response ("uh"), presentation of the response contingent stimulus "wrong" serves as a punishment and the frequency of the response is reduced.

A third experiment showed that two specific behaviors emitted during stuttering could be manipulated independently. A subject who displayed both tongue protrusion and an s prolongation was given response contingent shock during spontaneous speech. Initially, only the tongue protrusion was followed by shock. After approximately 10 minutes of response contingent shock, tongue protrusion was completely suppressed but the s prolongation remained at base rate level. Following the suppression of tongue protrusion, the contingency was changed and shock was made contingent upon the s prolongation. The result was a dramatic reduction in the subject's s prolongation and tongue protrusion remained suppressed. Thus, two specific stuttering responses were manipulated independently.

The results of these experiments show that stuttering can be suppressed in frequency through the application of response contingent stimuli. Unfortunately, however, the suppression effects upon stuttering extinguish relatively rapidly. Once the shock or verbal stimulus is removed, the response rate returns to base rate level.

Discussion

Although certain overt stuttering behaviors are susceptible to experimental manipulation in much the same way as are other operant behaviors, Factor II therapy techniques do not permanently suppress the stuttering behaviors. The failure of operant techniques to permanently reduce stuttering may be a function of not treating the Factor I classically conditioned anxiety. The two factor theory dictates that the modification of stuttering must include techniques designed to treat only the overt responses (instrumentally conditioned behaviors). These responses constitute only a part of the total clinical picture of stuttering. It is also necessary to eliminate the Factor I classically conditioned behaviors.

There is every reason to believe that the simultaneous use of both Factor I and Factor II therapeutic techniques is advantageous in the treatment of stuttering. Factor I techniques modify the emotional and evaluative behaviors, while Factor II techniques modify the instrumental responses. It is entirely possible that the Factor II operant techniques, which assist the stutterer in his effort to speak more fluently, may have a positive effect on reducing the classically conditioned anxiety.

Summary

This paper has presented a behavioristically oriented theoretical and therapeutic approach to the treatment of stuttering. It has been suggested that stuttering behavior consists of two processes, classically conditioned negative emotionality resulting from a fear of fluency failure and instrumentally conditioned behaviors that attempt to combat the expected fluency failure. It has been recommended that stuttering therapy attack the classically conditioned behaviors through the use of systematic reciprocal inhibition while simultaneously manipulating the instrumental responses through the use of operant techniques.

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CAUSES AND CHARACTERISTICS OF COMMUNICATION DISORDERS IN ELEMENTARY SCHOOL CHILDREN

by

John H. Meier

This paper presents a model which theoretically relates the causes of communication disorders to some of their characteristics which are customarily identified through differential diagnosis. Some of the procedures for and findings from two prevalence studies of individual learning disabilities are reported and discussed in order to demonstrate the practical manifestations of certain communication disorders.

Since learning involves the communication of information either within an individual or between individuals, investigations into the prevalence, causes, and characteristics of learning disabilities are essentially concerned with the causes and characteristics of communication disorders. Two communications networks are suggested for depicting these complex interrelationships.

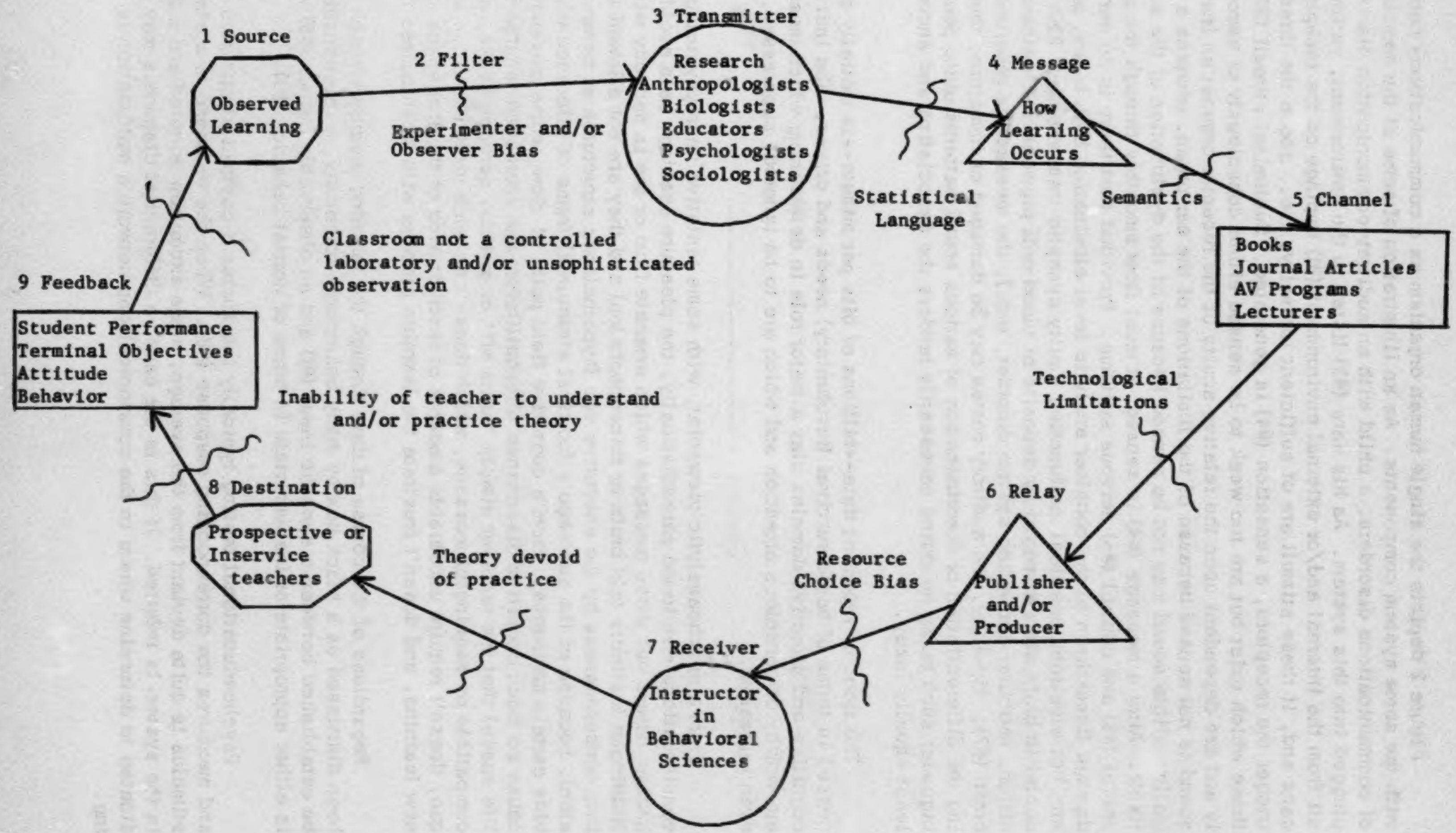
The first exploratory prevalence study was conducted in early 1967 in the second grade classes of the Greeley Public Schools and was supported by the Psycho-Educational Research Institute; this study was conceived subsequent to a 1966 national tour of representative facilities dealing with dyslexic children and was supported by a grant from the Ford Foundation to improve teacher education at Colorado State College. The second prevalence study was conducted in early 1968 in second grade classes located throughout eight Rocky Mountain States, using somewhat refined instruments and procedures which were developed for the previous pilot study; this study was an integral part of an Individual Learning Disabilities Program begun under the auspices of the Rocky Mountain Educational Laboratory.

Theoretical Model of Communication Disorders

In an effort to develop some theoretical rationale for communication disorders, two communication networks (Figures 1 and 2) are presented for the reader's consideration. Although these networks are nearly self explanatory, it seems exigent that several of their salient features be briefly described.

Figure 1 is a suggested depiction of the communications network in which such presentations as this paper fit. The CEC Annual Conventions are held to effect accurate and current communication among the numerous and scattered professionals throughout the world who are dealing with exceptional children. The Transmitters (#3) share their recent laboratory findings and theoretical constructs (#1) with fellow workers (other #3's, plus #7's and #8's) in the field. In any communications system there are various filters (#2 and other wavy intersecting lines) which condition the information by eliminating what might be referred to as "noise" in the system. However, what is noise to one person is frequently music to another. Thus, the transmitter is tuned to certain phenomena and records and reports data from that point of view. The remainder of the network indicates additional points of distortion which typically bias the communication of facts and ideas among professional people. A convention such as this serves to short circuit the network by enabling direct dialogue between, say, a special education teacher (#8) and a research psychologist (#3). An unsuccessful convention is one marked by such communication disorders as faulty audiovisual equipment, aloof and abstruse presenters, disinterested or underprepared audiences, inadequate

FIG. 1. An Interindividual Communications Network.


1 Source
Observed Learning
2 Filter
Experimenter and/or Observer Bias
3 Transmitter
Research
Anthropologists
Biologists
Educators
Psychologists
Sociologists
4 Message
How Learning Occurs
Statistical Language
Semantics
5 Channel
Books
Journal Articles
AV Programs
Lecturers
Technological Limitations
6 Relay
Publisher and/or Producer
Resource Choice Bias
7 Receiver
Instructor in Behavioral Sciences
Theory devoid of practice
8 Destination
Prospective or Inservice teachers
Inability of teacher to understand and/or practice theory
9 Feedback
Student Performance
Terminal Objectives
Attitude
Behavior
Classroom not a controlled laboratory and/or unsophisticated observation

room for all to see and hear well, and other chronic convention maladies.

Figure 2 depicts the single human organism as a communications network with the same system components. As an illustration of some of the complexities of communications disorders, a child with an auditory communication disorder is plugged into this system. As his ears (#3) listen to the environment, various stimuli from the internal and/or external environment (#1) impinge on the receptor organs and, if these stimuli are of sufficient intensity, i.e., above the threshold to trigger the receptors, a sensation (#4) is generated. Subliminal stimuli (#2) are those which exist but are too weak to be sensed either consciously or unconsciously and are dependent upon the relative acuity of the receptor organs; an inaudible sound is not sensed because of the limitations of the ear organ, whereas a normally audible sound may not be sensed because of the dysfunction of the ear organ itself. After a message (#4) is sensed, it must flow smoothly through the peripheral (#5) and central (#6) nervous systems. Provided that there is no nerve damage (breakdown at the cochlear analytic level eliminating high tones, myelitis, etc.) or electrobiochemical malfunction (faulty synaptic transmission, RNA deficit, nuclei in brain stem damaged by deposits of blood cell pigment in Rh athetoid condition, reticular activating system disorder, etc.), the message is received by the brain (#7). However, the auditory cortex may be damaged or immature, thus making the differentiation or discrimination of various sound patterns quite poor or ambiguous; such fuzzy decoding necessarily renders the associating and encoding at least equally fuzzy.

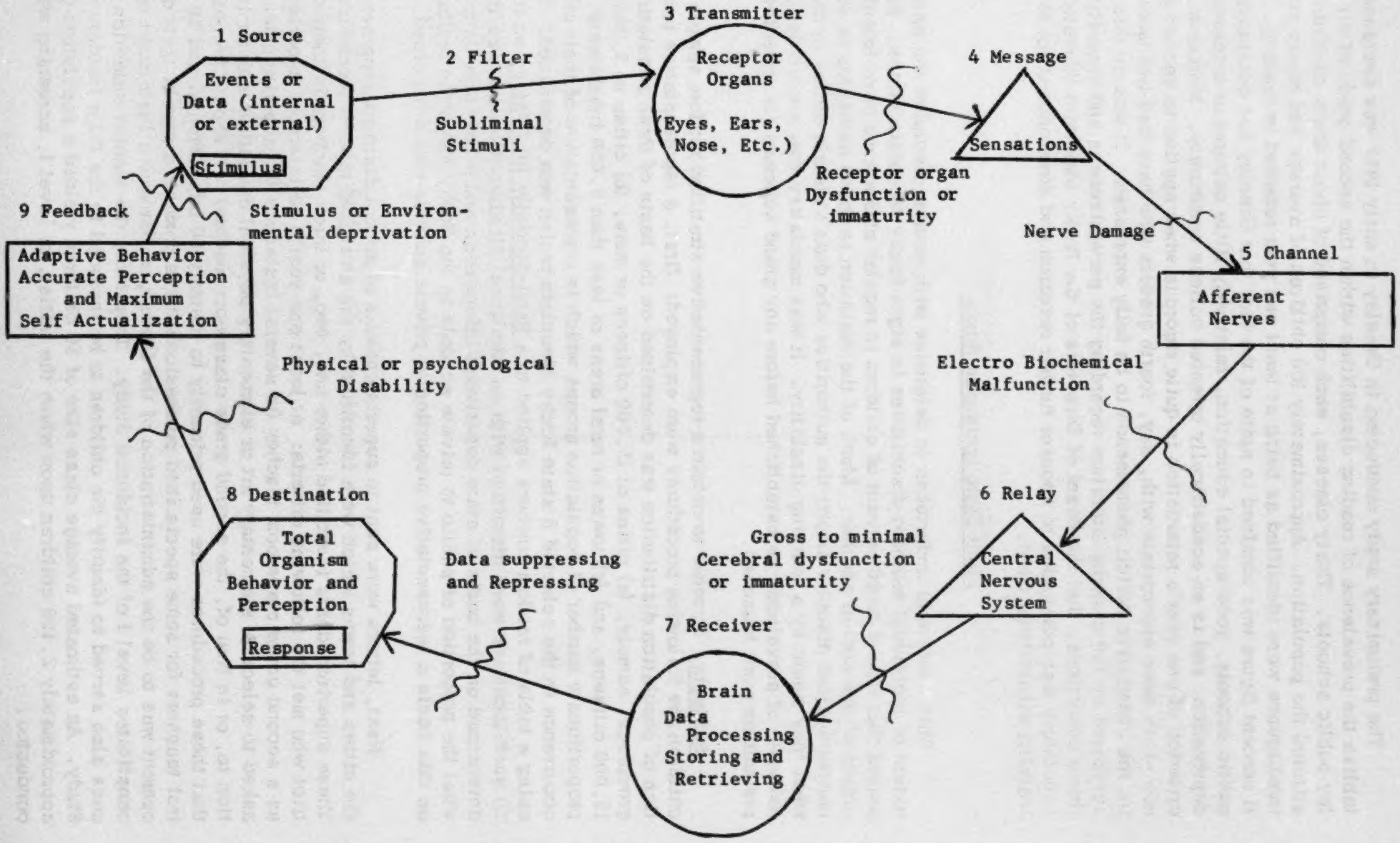
The flood of incoming data--billions of bits per minute--is initially processed in terms of basic survival (involuntary) needs and drives. The individual's cognitive and affective domains play a major role in determining which messages are worthy of conscious attention and which are to be ignored, suppressed, and even repressed.

From a psychoanalytic viewpoint, with some tentative neurophysiological considerations mentioned parenthetically, the pleasure seeking, pain avoiding organism filters out those messages which emanate from or are in harmony with the libidinous instincts (old brain or rhinencephalon) and they are not allowed to enter into consciousness by the executive ego (hypothalamic structures or mesencephalon), because of the superego's (cortical structures) frame of reference which forbids certain messages. From a cognitive field point of view, some messages cause so much cognitive dissonance (disequilibrium and increased tension in the life space) that the receiver simply "turns off" or awaits, perhaps seeks, a more compatible or meaningful message, which doesn't do such violence to the status quo, doesn't require unbearable amounts of restructuring of the life space, i.e., new learning, and doesn't frustrate the learning process with meaningless noise.

Regardless of the course of data through the learning organism which has been dismissed as a black box by many behavioral scientists, a relationship can be established between a specific input (#1) and an observable output (#8) which is either appropriate or inappropriate in terms of normal behavior (#9).

Psychoeducational testing typically introduces a controlled stimulus (#1) and measures the corresponding response (#8). When the response to a standard stimulus is quite deviant from the average, some exception is noted and a disorder in the system is inferred. If this is the case, a differential diagnosis may be indicated to determine where in the communications network a malfunction is occuring.

FIG. 2. An Intraindividual Communications Network.


1 Source
Events or Data (internal or external)
Stimulus
2 Filter
Subliminal Stimuli
3 Transmitter
Receptor Organs
(Eyes, Ears, Nose, Etc.)
4 Message
Sensations
Receptor organ Dysfunction or immaturity
Nerve Damage
5 Channel
Afferent Nerves
Electro Biochemical Malfunction
6 Relay
Central Nervous System
Gross to minimal Cerebral dysfunction or immaturity
7 Receiver
Brain
Data Processing Storing and Retrieving
Data suppressing and Repressing
8 Destination
Total Organism Behavior and Perception
Response
Physical or psychological Disability
9 Feedback
Adaptive Behavior Accurate Perception and Maximum Self Actualization
Stimulus or Environmental deprivation

Preliminary Study in Greeley Public Schools

The preliminary study conducted in Greeley in early 1967 was designed to establish the prevalence of reading disabilities within the second grade of all Greeley public schools. Thirty classes, each comprised of about thirty children, constituted the population. Approximately 100 children of average and above average intelligence were identified as being at least one year retarded in reading. This 11 percent figure was obtained in spite of the fact that Greeley has outstanding public schools, good special education, relatively little cultural or environmental deprivation, and is an academically oriented college community. Moreover, the criterion of one year's retardation is quite rigorous when applied to second graders--it is more appropriate with, say, fourth graders who have had two more years for the cumulative deficit phenomenon to be fully expressed. It was on this basis, supported by the growing literature regarding the pervasiveness and severity of these conditions, that the Board of Directors of the Rocky Mountain Educational Laboratory was persuaded to sponsor further research and development for the learning disabilities field.

Eight State Incidence Study

This study was undertaken to determine with greater precision the nature and extent of individual learning disabilities in eight Rocky Mountain states. Estimates stated that from 4 to 40 percent of children in regular classrooms have learning disorders of one sort or another. Much of the variation in these estimates is due to a communication disorder among the authorities who didn't clearly define or delimit what they meant by a learning disability. It was mandatory that a more definite estimate of prevalence be established before any grand schemes for remediation or prevention were launched.

Subjects. In order to obtain a representative stratified random sample of children the following procedures were employed: first, a representative proportion of population distribution was determined on the basis of three population groupings, namely, (a) cities of 15,000 citizens or more, (b) cities of 5,000 to 15,000 citizens, and (c) towns or rural areas of less than 5,000 inhabitants. A proportionate number of population groups which is representative of their relative occurrence in the selected 8 state Rocky Mountain region was determined. Then, using a table of random numbers applied to a Rand-McNally 1967 Atlas, an initial 20 such locations were identified with an additional 20 alternates. It was then determined on the basis of state department information and a Baseline Data Study what the proportion of public to private schools in the Rocky Mountain region is; on this basis a representative proportion of private schools was determined.

Next, letters were sent to superintendents of school districts representing the cities and towns which were identified by the stratified random procedure. These superintendents identified either one, two, or three teachers in their district who met the following criteria: at least one year's satisfactory experience as a second grade classroom teacher (in several instances the superintendent was asked to select an elementary art or elementary physical education teacher in addition to, or in lieu of, the second grade classroom teacher). It should be noted that these procedures were used primarily to identify 60 experimental and 20 control teachers for some specialized professional development; a part of their development was to be the administration of the Classroom Screening Instrument which constitutes Level I of the Incidence Study. Therefore, the teacher selection process also served to identify the children to be included in the Pilot Incidence Study. An estimated average class size of 30 children yielded a population of approximately 2,400 children upon whom the initial, or Level I, screening was conducted.

Three Levels of Diagnosis

Level I. The Classroom Screening Instrument. All 80 teachers received a packet of materials for screening children in their own classroom in accordance with procedures and instruments devised by the writer with the consultation of 16 learning disabilities experts who augmented the face validity of the instruments by critiquing and contributing to them. Each teacher was instructed to identify in his classroom from 0 to 12 children who he thought were having unusual difficulty in learning. This was done after the teachers had administered a uniform spelling test, a Pupil Productions fill-in sheet and a design copying test. The Goodenough Draw-A-Person Test was also completed by each of the 2,400 children. The teacher was instructed to rank children in order of their difficulty in learning, with the child who had the most difficulty being placed first. Then each teacher proceeded to check the 80 behavioral indices listed on the Pilot Study Version of the Classroom Screening Instrument. She checked the behavior as present (+), absent (-), or no opportunity to observe (0).

The teacher also completed a form containing related information about the child's school performance and brief bits of information about family background. This information was used to determine which of the children warranted the Level II Differential Diagnosis and which were to be excluded from this next step. Some children were excluded from Level II testing because they were evidently working up to their expectancies as revealed in the Related Information, Pupil Productions, other relevant information, and teacher comments. Other children were excluded from the Level II testing if a combination of parental occupation and related teacher observations indicated that the child's reduced learning was evidently due to the deprivation of the environment in which he was living; culturally disadvantaged children were excluded by definition from this particular study. Thus, the judgment to exclude a child whose name was submitted on the Classroom Screening Instrument was based on either the fact that he was performing in school up to expectancy for his chronological age as indicated on intelligence and achievement tests or came from a home background of low socioeconomic status and its concomitant environmental deprivation.

Level II. Differential diagnosis. This testing was conducted by a Field Diagnostic Team in each child's home area, usually in a school centrally located in the district where the child attended school. The following battery of tests was administered to all children in Level II work-ups: The Wide Range Achievement Test; a combination Reading-Achievement Test made up of subtests from the Durrell Reading Achievement Analysis Test and the Spache Reading Test (the Oral Reading portion of Durrell's test and the Silent Reading and Listening Comprehension portions of Spache's test comprised the combination Durrell-Spache Reading Achievement Test used in this battery); the Wechsler Intelligence Scale for Children; the Beery Visual Motor Integration Test; the Frostig Developmental Test of Visual Perception; the Illinois Test of Psycholinguistic Abilities (by Kirk and McCarthy--experimental edition); the Templin-Darley Articulation Test; and a standard pure-tone audiometric screening.

Since an important function of the Level II and III information is its use in validating the Classroom Screening Instrument, portions of the Level II battery were administered to all children in four randomly selected classes from throughout the region; this total class testing was done to determine whether any false negatives were occurring in the Classroom Screening procedures. For the total class screening at Level II the Wide Range Achievement Test, the Templin-Darley Articulation Test, and Audiometric Test, and the Wechsler Intelligence Scale for Children were administered; when indicated, the remainder of the battery was also used. The entire Level II battery of tests was administered to at least five random-

TABLE 1
Preliminary Profile of Level II Findings

Variable	Mean		Variability		Correlation with Learning Quotient	
	Experimental[1]	Control[2]	Experimental	Control	Experimental	Control
Chronological Age	101.95	101.51	7.32	6.09	-.64	-.84
Grade Age	96.00	96.00	0.00	0.00	.00	.00
Mental Age (CA x IQ)	97.43	102.00	9.80	10.63	-.02	-.23
Expectancy Age $\left(\frac{MA+CA+CA}{3}\right)$	98.50	99.86	4.08	4.42	-.41	-.57
1. Perceptual Quotient (DTVP)	89.48	*	12.45	*	.55	*
2. Language Quotient (ITPA)	90.73	*	9.25	*	.27	*
3. Cognitive Quotient (WISC)	97.52	100.74	11.15	9.02	.53	.52
4. Visual-Motor Quotient (VMI)	99.34	*	32.54	*	.36	*
5. Articulation Quotient (Temp-D)	103.70	106.85	14.22	5.18	.36	.51
6. Reading Quotient (WRAT)	90.32	105.79	11.31	16.70	.55	.75
7. Spelling Quotient (WRAT)	88.38	99.03	8.21	11.98	.61	.78
8. Arithmetic Quotient (WRAT)	90.30	94.95	9.30	6.99	.52	.61
Spatial Score $\left(\frac{PC + BD + OA}{3}\right)$	96.01	100.69	21.71	18.84	.26	-.04
Conceptualizing $\left(\frac{Comp+Sim+Voc}{3}\right)$	102.29	103.53	26.63	22.72	.17	.05
Sequencing $\left(\frac{DS + PA + Coding}{3}\right)$	89.98	101.80	17.51	18.97	.21	.24
Learning Quotient $\left(\frac{\frac{\text{Sum of \#s 1 thru 8}}{8.00}}{\text{Expectancy Age}}\right)$	94.79	101.60	10.34	9.25	1.00	1.00
Verbal I.Q.	97.43	100.56	12.74	11.93	.22	.28
Performance I.Q.	96.10	101.23	11.84	10.70	.19	.08

*These tests were not administered to the Level II total class control groups.

[1] Experimental N = 285

[2] Control N = 87 (Total classes tested)

ly selected children in each class--these children were to serve as controls for the Level III testing and had to have complete work-ups and otherwise be treated the same as the experimental subjects.

All of the totals from the various tests mentioned, such as perceptual age (Frostig), language age (ITPA), mental age (WISC), etc., were included in an analysis which included the determination of learning quotients for each tested behavioral dimension in accordance with Myklebust's formula. This formula is designed to take into account the child's mental age, his chronological age, and his school experience in order to arrive at an expectancy age which in turn may be divided into the child's performance age for various specific behavioral dimensions such as spoken language, reading, spelling, arithmetic, perception, visual-motor integration, performance and verbal intelligence, etc. In order to determine those children who warranted the Level III medical diagnosis, the computer print-out of learning quotients and other quotients for specific parameters was inspected. Every child whose overall learning quotient (average of eight specific quotients) was below 90 or who had quotients below 85 in two or more specific parameters was included in the Level III group.

Level III. Medical diagnosis. This part of the study was designed to thoroughly evaluate the child's physical functioning in order to ascertain either the specific types of physical abnormalities which may have been related to his learning disability or to rule out any physical malfunctioning as a possible explanation for his learning disability. This evaluation was done in a central location at the Children's Developmental and Evaluation Clinic at Children's Hospital in Denver, Colorado. The Level III work-up consisted of a medical history, a social history, pediatric, neurological, ophthalmological, otolaryngological, metabolic, chromosomal (buccal smear), electroencephalographic (with sleep) examinations plus standard laboratory tests. In those cases where a child's functioning seemed to be seriously impaired by emotional disturbance, a staff psychiatrist and a psychologist at the clinic were asked to examine the child and give an opinion as to the etiology of the emotional disturbance and whether or not it was primarily or secondarily related to the child's inability to learn. The Level II Field Diagnostic Team Members were also alerted to signs of emotional disturbance and asked to remark about such signs in their anecdotal record of the child's behavior during the testing sessions.

Additional Procedural Observations

An advance representative of the ILD Program preceded the Field Diagnostic Teams into each school district and made preliminary arrangements with the school officials, in some instances with the child's teacher and in every instance with the child's parents, in order to establish a receptive attitude toward the Level II Diagnosis. This person also helped to schedule the five three-menber teams of Field Diagnosticians in order to insure that they would work with maximum efficiency and convenience. Prior to any testing on the part of the Field Diagnostic Team, written permission for the Level II Differential Diagnoses, as well as a written release of information regarding the child, was signed by a parent or other responsible adult. Written clearance was obtained from each state department of education with regard to the Field Diagnostic Team members, all of whom met minimum state requirements for administering the tests for which they were responsible. Although children were typically transported to the site of testing by their parents or a responsible adult, in some instances the child's teacher, a member of the Field Diagnostic Team, or a taxi was used to deliver a child to the testing site and/or return him home. Children on vacation or who had moved from the area were not sought out and their absence in the study was considered to be random and noncontaminating. All tests were scored by the Field Diagnostic Team

Member who administered them and the data were recorded on forms specially designed to expedite the key punching of data processing cards and subsequent analysis in accordance with specific computer programs.

Findings

Level I. Classroom Screening. The Classroom Screening Instrument, with several pieces of supplementary written material such as directions for its administration, some history of its development, and related forms (including a consultant fee form by which each teacher received $25 for doing the task), were distributed to eighty teachers either by mail or in person during the month of April, 1968. Completed instruments were returned to the ILD Program headquarters within a two week period after their receipt and all instruments with complete data had been received by the middle of May, 1968.

The 80 teachers had a mean class size of approximately 30 children; class size ranged in number of children from 12 to 46. Children's ages ranged from 7 to 11 years. It is estimated that approximately 2,400 children attended the second grade classes which were screened by their teachers. There were 478 names returned to the ILD Program headquarters. The number of names listed by teachers on the Screening Instruments varied from 1 to 12 (since each Pilot Study Version of the instrument could accommodate 6 children and two Instruments were included in each packet, 12 children was the maximum number that could be listed by any single teacher). Using the definition stated below as delimiting criterion, 117 names were eliminated from consideration for the Level II differential diagnosis. Therefore, 361 children were selected for Level II Diagnosis.

Definition--A Delimiting Criterion

As stated earlier, the wide variance in estimates of the prevalence of learning disorders is largely due to poor communication among researchers regarding their various definitions of these conditions. The following inclusive and exclusive definition was used to select children for the Level II Diagnosis:

> A child with learning disabilities is one with adequate mental ability, sensory processes, and emotional stability who has a limited number of specific deficits in perceptual, integrative, or expressive processes which severely impair learning efficiency. This includes children who have central nervous system dysfunction which is expressed primarily in impaired learning efficiency (CEC Division for Children with Learning Disabilities).

Such difficulties are typically manifested either singly or in various combinations in severe and specific difficulties with reading, writing, spelling, calculating, listening, and speaking. The definition excludes children who have gross neurological disorders, general mental retardation, severe environmental deficits (including cultural disadvantage), and/or grossly inadequate school experiences.

Level II. Differential diagnosis. Of the 361 children who qualified for Level II testing, 285 were actually available and tested with the entire test battery. The 76 children who were not tested were unavailable because of a long vacation out of town, because they had moved from the area, or, in two of the locations, because the school administration and school board refused to allow the Level II testing for the 18 children scheduled for it.

The refusal for testing was reportedly based upon the belief that such testing would arouse the anger of the community and in particular of the children's parents. This assumption was in turn based on a quite hostile reaction on the part of some parents in those locations toward some other allegedly unscrupulous testing which had been attempted earlier the same year. These were the only two locations where the ILD Program's advance representative met with anything less than gracious and willing cooperation. This group of 18 children who were not allowed to be tested is not thought to create a substantial problem with the data since the number of children is small and similar communities were represented elsewhere in the sample. Table 1 includes the means and standard deviation for the Level II experimental and control groups. Inspection of the data reveals several important relationships.

It can be seen, for example, that the children in this sample performed on the average much better in articulation than in general language. Not only is the mean higher in articulation but the variability is less than that found in the areas of language or visual-motor integration. Additional variables which were not entered into the calculation of the overall Learning Quotient are those suggested by Bannatyne which he refers to as Conceptualizing, Spatial, and Sequential skills; these are derivatives from subtest scores from the Wechsler Intelligence Scale for Children. It is noteworthy that children in this study performed considerably better in the Conceptual and Spatial realms than they did in the Sequential realm. This is consistent with findings reported by Masland, Doehring, and others with regard to learning disabled children. It implies that many communication disorders are due to disabilities in receiving, associating, and expressing data in its original sequence. Auditory data are particularly susceptible to this deficit since the data are only available once, unless recorded, and must be captured and preserved in sequence during that fleeting time.

Other corroborative findings related to communication disorders were revealed in the subtest patterning of the ITPA and WISC. Although the overall mean Language Quotient on the ITPA was 91, and eight subtests had mean quotients of 92 or above, four subtests had the following mean quotients: Vocal Encoding, 80 (S.D.= 17); Motor Encoding, 86 (S.D. = 20); Auditory Visual Sequential, 86 (17); and Visual Motor Sequential, 75 (15). The greater difficulties seemed to be manifest in expressive rather than receptive or associative functioning. The two sequential tasks require on-the-spot learning of information in sequence and recalling it in identical sequence. It is noteworthy that two of the three WISC mean subtest standard scores below 9 were on Digit Span, 8.5 (S.D. = 2.4) and Coding, 8.6 (S.D. = 3.1); the third low subtest was Arithmetic. Additional analyses and comparisons are possible but the sequencing disability phenomenon seems most significant with regard to communication disorders.

The high negative correlations between chronological age and learning quotient and between expectancy age and learning quotient are tentatively explained by the fact that those children who were older but still in second grade at the time of testing had experienced greater difficulty in learning and had often been retained once or twice.

Level III. Medical findings. Although it is too early to report the medical findings in their entirety at this writing, certain general impressions have emerged from an inspection of the preliminary data. There seem to be a large number of subclinical, "soft" neurological signs among the experimental group as compared to the controls or normal children in general. Several physical problems in hearing, such as chronic middle ear difficulties, were discovered. Considerable numbers of electroencephalographic abnormalities were recorded. Very few uncorrected visual problems were detected. Unusual metabolic, chromosomal, or other exotic irregularities were seldom noted.

Conclusion

Communication disorders comprise a many splendored phenomenon. Their causes and characteristics are kaleidoscopic. They are an important contributor to many learning disabilities, whether the communication network breaks down within a learner or between the learner and his instructor. A disability in receiving, processing, storing, retrieving, and/or expressing data in proper sequence seems to account for a large proportion of communication disorders. This was apparent within and across all sensory modes and was characteristic of a large percentage of learning disabled second grade children, who comprised about fifteen percent of the regular population in 110 classes throughout eight Rocky Mountain States.

In order to avoid the paralysis of analysis, it is suggested that teachers and parents can remediate and, more importantly, prevent many such disorders by systematic training of sequential abilities. Various methods and materials for doing this are becoming increasingly available. Although some physical complications may make this more difficult, the preliminary evidence does not indicate insurmountable or generally prevalent organic barriers to ordered communication. A computer observer's acronym is applicable here--GIGO--which stands for Garbage In Garbage Out; thus, garbled input to any of the components of the Communications Networks inevitably results in garbled output. Troubleshooting such malfunctions requires systems analysis techniques which can test each link in the network, identify the "noise" and eliminate it, thereby enabling the individual or group of individuals to engage in undistorted communication.

CHILDREN WITH LEARNING DISABILITIES: IV CONDITIONING DIFFERENTIATION AND DISTRACTION

by

Roscoe A. Dykman, Robert C. Walls, Peggy T. Ackerman
and John E. Peters

In this paper, we present data on errors and reaction times, contrasting academically adequate children (controls) and children with specific learning disabilities (CLD). The CLD are divided into three subgroups: hyperactives, hypoactives, and normoactives. We believe that CLD are sufficiently slow in coding and encoding operations as to explain, in part, their difficulties in the classroom.

Four specific hypotheses are tested; these are derived from the work of Luria (1960, 1961) and our own past work (Stevens, Boydstun, Dykman, Peters, & Sinton, 1967): (a) CLD will have more difficulty than controls in comprehending simple instructions; (b) CLD will make more errors than controls even when they comprehend the task; (c) controls will have considerably faster reaction times than CLD as a group; and (d) hyperactive CLD will have faster reaction times than hypoactive CLD.

Method

Subjects. We studied 34 controls and 81 CLD, all Caucasian boys ranging in age from 8 years to 11 years, 11 months. All subjects had a verbal or performance

IQ score of at least 90 on the Wechsler Intelligence Scale for Children (WISC), and all came from adequate homes as judged by socioeconomic data. The controls were obtained from two local elementary schools. Of the CLD, 70 attended nearby public schools, 3 came from parochial schools, and 8 from a local private school.

On the basis of parent and school reports, 29 CLD were classified as hyperactive, 19 as hypoactive, and 34 as normoactive. The hyperactive children are easily recognized as being distractible, impulsive, easily exhaustible and lacking in ability to concentrate. The hypoactive children, on the other hand, were unusually slow in speech, thought, motor action and/or affect. Subjects not clearly hyperactive or hypoactive were assigned to the normoactive category.

Procedure. Details concerning the apparatus may be found elsewhere (Boyle, Dykman, & Ackerman, 1965; and Stevens et al, 1967). The child was seated 5 feet away from a curved plywood panel on which were located three lights forming an isosceles triangle. Two small jewelled lights, one red and the other green, were mounted 2 inches apart and 1 inch above the central white light (7.5 watts). The diameter of the white light (1.5 inches) was 3 times that of the colored lights and its intensity (about 0.5 candles per square foot from where the subject sat) was about 8 times greater. A telegraph key was mounted on a small stand adjacent to the subject's dominant hand.

The test consisted of three phases: conditioning, differentiation, and differentiation with a distracting stimulus. In the conditioning phase, the subject pressed the telegraph key when the red light came on and released it when the subsequent white light appeared. Differentiation was the same except that a green light was sometimes given along (no white light) with instructions to disregard it. In the distraction phase, a very loud hooter (90 decibels and lasting 1 second) occasionally sounded before or during the colored lights. The colored lights lasted 5 seconds and the white light 1 second. The time interval from red to white was 4 seconds and the time interval between trials 10 seconds. Figure 1 gives the sequence of trials and hooter sounds.

Each child was given standardized instructions before each procedure. In conditioning and differentiation, there were three possible instructional levels: (a) the experimenter demonstrated the operation of the apparatus pointing to the lights (not illuminated) while pressing the releasing the key; (b) same as (a) except that the lights were illuminated; and (c) the experimenter coached the child telling him when to press and when to release. Each level of instruction was followed by four training trials and the next instructional level ensued only if the child had made one or more errors in the training trials. If he made no errors, we began the test trials. Prior to the distraction phase, the hooter was sounded once and the child was told to disregard the hooter and do what he had been doing before.

Results

Errors made in training instructions. For simple conditioning, 6 of the 28 hyperactive CLD (21 percent) required the second level of instruction, and 2 of these required the third level. Two of 19 hypoactive CLD, 20 of 34 normoactive CLD, and 1 of 34 controls required the second level of instruction. One significant difference emerged: hyperactive CLD differed from controls in the speed of comprehending instructions in the conditioning phase ($p \leq .05$) by the Fisher exact probability test (Siegel, 1956). Very few subjects (less than in the conditioning phase) required any additional instruction in understanding the differentiation instructions.

Errors made during conditioning, differentiation, and distraction phases. We scored five kinds of errors: (a) failing to press to red, (b) pressing to green, (c) releasing key after red and before white, (d) failing to release key to white and before white ended, and (e) pressing the key in the interval between trials. The total errors in all test trials (10 conditioning, 10 differentiation, and 20 hooter trials) averaged 8.97 per hyperactive child, 7.97 per hypoactive child, 4.82 per normoactive child, and 3.97 per control child. The Mann-Whitney U test (Siegel, 1956) revealed that normoactive CLD did not differ from the controls on the composite error measure. However, both the hyperactive and hypoactive groups made more errors than the other two groups ($p < .01$ in all contrasts), and the difference between hypoactives and hyperactives approached significance ($p = .10$).

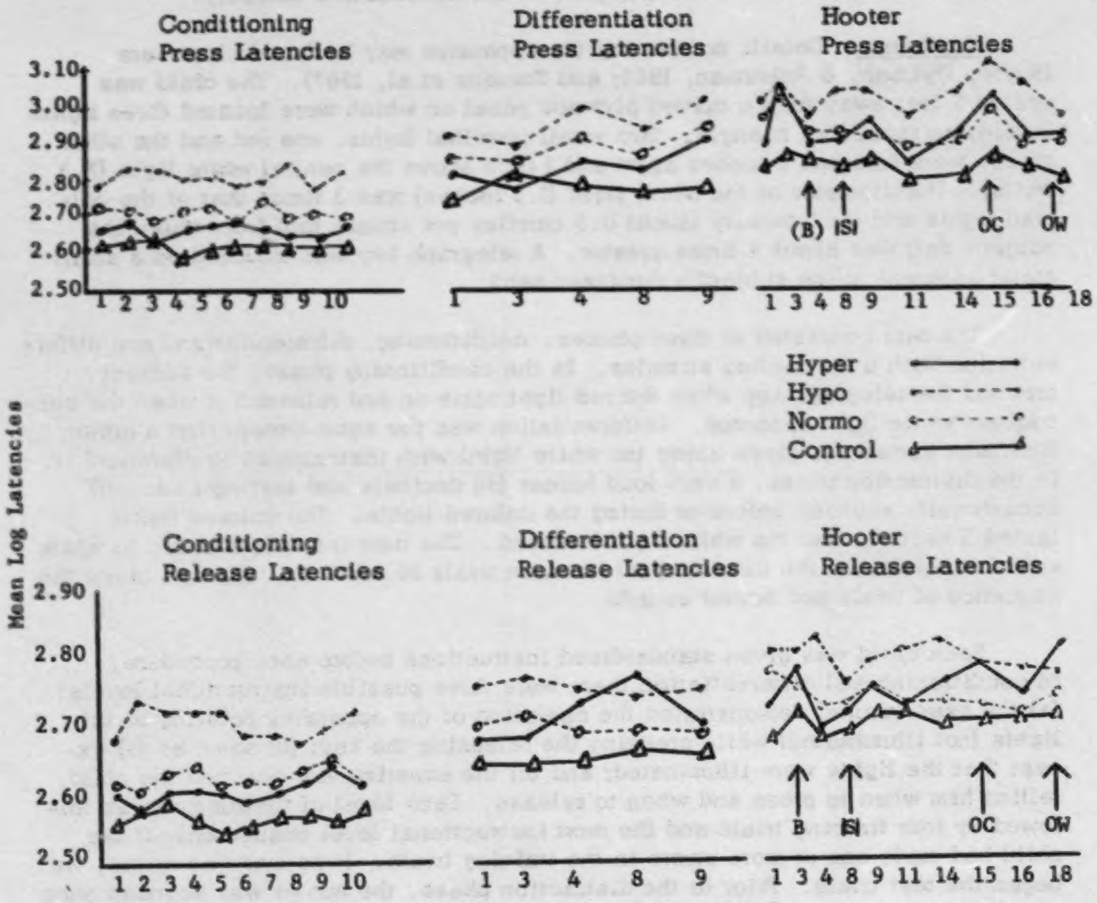


FIG. 1 Log press and release latencies for each red light trial in the three procedures.

Note: The symbols in the right hand figures have the following meaning: B is a loud noise given 1.5 seconds before red lights; ISI is a noise given 1.5 seconds after the onset of red and green lights; OC is a noise overlapping colored lights (came on 0.5 second before red or green); and OW is a noise overlapping white lights (came on 0.5 second before white lights). The noise lasted one second. Missing numbers on the abscissa denote green lights.

Latency data. Figure 1 presents the mean log latencies for each procedure. Logs were used to reduce the skewing effect of a few atypically long reaction times.

As may be seen, the ordering of groups from slowest to fastest reaction times was hypoactive, normoactive, hyperactive, and controls.

The strength of the release response was greater than that of the press response, since the release action was regularly produced by a definitive ready signal, the red light. The slowing of release latencies in differentiation and distraction phases, relative to conditioning, cannot be explained on the basis of the child having to make a choice--the child was simply required to release every time the white light occurred. Nor can the slowing trend be explained by fatigue since latencies in a subsequent differentiation phase (not reported here) were equivalent to those in the differentiation phase shown in Figure 1. Hence, the slowing is probably attributable to inhibitory or negative generalization (transfer of "no go" tendencies from the green lights and the hooter to white lights). The slowing of press latencies, in differentiation and distraction phases, on the other hand, would seem to depend in part upon negative generalization and in part upon increased "thinking time." In these there was a choice; the child had to decide whether to press or not press depending on the color of the light.

Imposed on the general slowing trend of press latencies in the differentiation phase were intriguing sequence effects. Here green lights indicated by missing numbers (the do not press signal) speeded reactions to subsequent red lights, but red lights slowed reaction times to subsequent red lights. This may be an example of the induction of one nervous system process by its opposite (Pavlov, 1941, 1957). These inductive effects occurred only in press reactions and not in release reactions and were disrupted by the hooter. As was expected, the hooter given before or overlapping the red lights slowed reaction times. However, the ISI and OW hooter (see legend of Figure 1) had no specific effect on press reactions simply because this response had already occurred before the hooter sounded.

As may be seen by looking at the means over trials in Table 1, CLD took 92 milliseconds longer to press and 59 milliseconds longer to release than controls. When a choice of go or no go was introduced in differentiation, press latencies increased 231 milliseconds for CLD and 198 milliseconds for controls. Release latencies increased 92 milliseconds for CLD and 79 milliseconds for controls over release latencies in conditioning--the negative generalization factor. In differentiation, the press latencies of CLD averaged 125 milliseconds longer than those of controls.

TABLE 1

Mean Press and Release Latencies Across

Trials in Milliseconds and Log Milliseconds

	Press				Release			
Procedure	Controls		CLD		Controls		CLD	
Conditioning	466	2.64	588	2.72	393	2.58	452	2.63
Differentiation	664	2.80	789	2.87	472	2.65	544	2.71
Hooter	768	2.86	939	2.95	510	2.68	601	2.75

Effect of chronological age (CA) and mental age (MA) on reaction time. Subjects were divided into two groups, those less than 10 years old and those 10 years old or older. The Mann-Whitney U Test was used to compare press and release latencies separately for different groups of the same age. We computed 72 significance tests using the means of subjects over all trials in each procedure (3 procedures × 2 ages × 2 latencies × 6 group comparisons). Only differences significant at .05 level or less are presented. Considering children less than ten years old and press latencies, hypoactives were slower than hyperactives and controls in all procedures and slower than normoactive in two of three procedures. For subjects less than 10 and release latencies, the hypoactives were slower than controls in all procedures and slower than hyperactives and normoactives in two of three procedures. Also hyperactives were slower than controls in press latencies during the hooter phase and normoactives were slower than controls in release latencies during the conditioning phase. After the age of 10 there were fewer significant differences: normoactives differed reliably from controls in press latencies during all procedures and in release latencies during the hooter; hyperactives differed from hypoactives in press latencies during conditioning; and hypoactives differed from controls in press latencies during conditioning.

To summarize these age results, significant differences before the age of 10 depended mainly on the hypoactive group and after the age of 10 mainly on the normoactive group. If group results are generalizable to individuals, hypoactive subjects show the greatest decrease in reaction time with age: hypoactive subjects under 10 are slower than all other groups and those over 10 are very close to controls. These age results, as indicated previously, are based on averages across trials and probably underestimate the degree of separation of groups as revealed by the trial means of Figure 1.

We also correlated reaction time with MA as estimated from the WISC. One significant product moment correlation emerged: in hypoactive CLD, MA correlated -0.53 ($p < .02$) with mean reaction time over the three procedures (conditioning, differentiation, and distraction). The corresponding correlations for other groups (not statistically significant were -0.18 for hyperactive, -0.28 for normoactive, and -0.27 for controls.

To study the possible confounding effect of CA and MA, we selected a small group of 29 matched pairs. Each control was matched with a CLD whose CA and MA were within 6 months of his. The CLD selected here were representative of each activity group (11 hyperactives, 5 hypoactives, 13 normoactives). Using the Wilcoxon matched pairs signed ranks test (Siegel, 1956; Wilcoxon, Kattie, & Wilcox 1963), we found significant differences (on tailed tests) between CLD and controls in the differentiation and hooter phases: press latencies in differentiation ($p < .01$), press latencies in hooter phase ($p < .025$), release latencies in differentiation ($p < .025$), and release latencies in hooter phase ($p < .005$). Though not significant, the trend of slower latencies for CLD pairs was found for the press and release latencies of simple conditioning ($p < .14$ and .07, respectively). Thus, we conclude that had we achieved a better age and IQ matching of CLD and controls in the total sample, the latency differences would still remain, though perhaps not as clear cut as in Figure 1. Within the CLD population, age and hypoacticity had a significant effect on latencies.

Discussion

Three of the four hypotheses stated in the introduction were confirmed: CLD make more errors than controls even when they comprehend a task; hyperactive CLD have shorter response times than hypoactive CLD; and controls are quicker than CLD as a group. CLD collectively are not slower than controls in comprehending simple training instructions; but hyperactive CLD do differ reliably from controls.

It was found that before the age of 10 hypoactive CLD are slower than all other CLD and controls in response latency; whereas, after the age of 10 normoactive CLD are slower than other groups. Although chronological age and mental age correlate with reaction time, the relationships are insufficient to invalidate the finding of appreciably slower response times in CLD than controls. This coupled with the greater negative generalization of CLD puts them at a disadvantage in simple, and by extrapolation, more complex learning tasks.

According to Miller (1951), a speaker (teacher in this case) averages about 1.5 words per second and some 7 to 9 bits of information per second. A message with two equally likely alternatives (go and no go) contains one bit of information, a message with four equally likely alternatives contains 2 bits, and a message with eight equally likely alternatives contains 3 bits. Information is measured by the logarithm to base 2 of the number of choices (16 alternatives $= 2^4$ and $\log_2 16 = 4$ bits). A message not involving a choice, or one that can be predicted exactly in advance, contains no information. In the situations here reported a child had to process at most one bit of information per second. The number of bits depends in part on structure of the English language and the number of words a teacher has available to communicate a thought. Not all alternatives are equally likely and if they were, a teacher with a vocabulary of 5000 words would average about 18 bits per second.

We suppose that a child in listening to a teacher has to decode, if he is to understand, at a rate not greatly different from that at which the teacher transmits, i.e., the problem of assigning meanings to words is about as complicated as conveying meanings by words. Assuming that the neural transmission time from retina to brain and from brain out to muscles is about the same in CLD and controls, the differences in speed of response of CLD and controls largely reflects processing or thinking time in the central nervous system. Our results indicate that the typical CLD is at least 1/10 second slower than the typical academically adequate control in processing a single bit of information. We estimate that the average control is able to handle about 8 to 10 bits of information per second and the average CLD about 4 to 5 bits of information per second. It is easy to see that within a few seconds, the typical CLD will have difficulty in understanding his teacher, and particularly since his attention span is also very short (Ackerman, Peters & Dykman, 1969; Stevens et al, 1967). The practical implication of this research is that if teachers are going to communicate with CLD they must speak slowly (at about half the normal rate of speech), at least in transmitting key segments of messages.

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COMPONENTS OF A WELL MANAGED CLASSROOM

by

Richard Olds

I would like to talk about the components of a well managed classroom. I shall proceed by fantasizing two examples of classroom management, and follow with extracted examples of the components which seem to me to be the relevant management variables.

In the first example, our teacher, Mrs. K., spent some time at the beginning of the school year familiarizing herself with the history of the children. She looked at IQ scores, standardized tests scores, report card marks, anecdotal notations, teacher comments, and other miscellaneous information found in student folders. She noted and confirmed from her own experience that her student, Charles B, scored in the lower percentiles in most sections of the standardized achievement test, had an IQ score in the mid 80's, performed most tasks in class slowly and incompletely, was frequently doing bothersome things in the classroom and around the school, had been referred for psychological examination and for school social work help, had relatively uncooperative parents, and had brothers who did most of the same things he did.

She made the following responses to this information: (a) she placed Charles in the slowest reading group in her class; (b) she reduced the work load expected of him as compared with the usual class requirements; (c) she placed his seat where she could watch him and prevent him from disturbing others in the class; (d) she talked with him about report slips she received detailing his misconduct on the playground; (e) she picked him to be the class messenger and thanked him each time he perfromed this duty; (f) she urged him to do neater work; (g) she called pupil personnel four times before a psychological examination was finally conducted after Thanksgiving recess; and (h) she held a conference with the parents in which she explained that Charles was continuing to make progress, but slowly, and was controlling himself better in class. She also mentioned that a psychological examination had been requested.

Charles had specific responses to these management procedures.

1. He performed slowly in easier reading material.
2. He made frequent errors.
3. He reduced his total work output.
4. He had a messy desk and messy work which he cleaned up on those occasions when his teacher talked to him about being messy.
5. He watched his teacher more carefully, avoiding punishment for bothersome behavior.
6. He performed his messenger service job commendably.
7. He temporarily reduced the number of report slips for misconduct on the playground, then returned to his normal rate.
8. He asked his parents what his teacher reported in the parent-teacher conference.

It is convenient for my fantasy to let Mrs. K. get pregnant so she can take a leave of absence at Christmas vacation time. Her replacement is Miss Y, an experienced teacher, with some training with behavior modification techniques. She, too, read the pupil records to make some guesses about the baseline performance of her students. She also had the benefit of information collected from the fall semester.

Her responses to the information were somewhat different than those of Mrs. K. Rather than reducing his work load, she planned to increase Charles' correct response rate by providing favorable consequences for correct responses.

1. She used information feedback on correct responses in reading as a reinforcement procedure.
2. She reassessed his reading skill after the new procedures had been in effect for a short time.
3. She specified desirable classroom behavior and reinforced it when it occurred.
4. She clarified and reinforced desirable playground behavior.
5. She maintained frequency count records of Charles' appropriate classroom and playground behavior.
6. She maintained his messenger duties.
7. She commented favorably on instances of improvement in neatly performed work.
8. She sent home favorable reports on school periods when Charles' classroom behavior was acceptable.

Charles had specific responses to these management procedures.

1. His correct response rate in reading tasks increased and his error rate decreased.
2. He demonstrated reading skill competency above the reading group in which he had been placed.
3. He reduced the frequency of undesirable classroom behavior (as defined by Miss Y) and undesirable playground behavior (as defined by school rules).
4. He continued to perform messenger duties commendably, initiating a new duty by requesting to collect the milk money.
5. He produced neater work but continued to maintain a messy desk.

6. He reduced the amount of time he spent watching Miss Y.
7. He asked his parents if they liked the reports he was bringing home.

In my fantasy, I see the management procedures used by Mrs. K and Miss Y as technologically different. Furthermore, they reflect a difference in myths each one holds concerning human learning.

1. Mrs. K believes that human behavior is subject to only very limited environmental control. She can make Charles "behave" but is not able to control his task behavior or skill improvement. Miss Y believes that human behavior is lawful and controllable. Learning environments can be designed to produce desired behavior including task relevant, skill improvement behavior.

2. Failure to learn, in Mrs. K's myth, is attributable to uncontrollable internal factors, such as low IQ and poor motivation, or to external factors, such as bad homes and cultural deprivation. Miss Y's myth maintains that failure to learn is a management failure.

What, then, are the minimum requirements for producing a successful learning environment?

In my view, five items constitute minimum requirements for a successful learning environment.

1. The terminal or criterion behavior is specified.
2. The necessary steps for producing the criterion behavior have been derived empirically.
3. The student's responses in the instructional process have favorable consequences for him.
4. The newly acquired behavior will be used and thus maintained in the future.
5. Feedback information is maintained on student progress and mastery.

In the case of Charles, the initial assessment Miss Y made of his behavior fit some of the requirements.

1. Terminal behaviors were specified:
    a. Increase rate of response in task behavior up to normal classroom expectations,
    b. Reassess reading skill criterion behaviors after response rate and quality have reached a reliably high and stable level,
    c. Reduce rate of non-task behavior below the level of annoyance for herself and other members of the class.
2. Necessary steps for producing criterion behavior have been determined empirically. In the case of academic skill acquisition Miss Y is, for the most part, on her own here since learning materials are generally not rigorously tested prior to publication. However, she'll get by pretty well if she has a good list of criterion behaviors.
3. Student responses in the instructional process have favorable consequences for him. Miss Y used feedback on progress, praise for improvement, and favorable notes home as her initial guesses for what would be reinforcing events to Charles.
4. Newly acquired behavior will be maintained or will be used in the near future. Miss Y had better arrange occasions for Charles to use new skills if she expects the skill to be maintained. An example would be to have him use his reading skill to carry out a project of special interest to him.
5. Feedback information is maintained on student progress and mastery. This item is identical to the feedback or favorable consequences item. I have listed

it separately because it has a distinctively different use here. A manager of an instructional system, Miss Y, needs feedback for purposes of making adjustments in her own behavior. Given a set of criterion behaviors, Miss Y needs to know how successful she is in meeting them.

HEARING CONSERVATION PROGRAM FEDERALLY SUPPORTED

by

Wanda L. Moody

Recently public schools have been assuming an increased responsibility for detecting hearing impairments of school children. In California, for example, the legislature has made it mandatory for all school districts to test the hearing of all their pupils. Needless to say it is useless just to carry out a hearing testing program unless something is done to improve the situation for the children who have hearing problems (Newby, 1964). Therefore the medical and educational followup aspects of the hearing conservation program are extremely important. The program which will be discussed is the one carried on in Knoxville, Tennessee.

The Knoxville City School System has long recognized the importance of a health program for its pupils. However, in recent years no provision has been made for an adequate hearing conservation program. The need for this program had been recognized for some time, but because of inadequate local financing, it was impossible to provide such a program. With additional funds being provided by the federal government through the Elementary-Secondary Education Act, Public Law 89-10, Title I, additional funds became available to initiate such a program in September 1966. The program which the writer discusses in this paper includes the statistics for the school year 1967-68.

The Hearing Conservation Program was designed to detect , through audiometric testing, those pupils whose hearing deviates from normal, and provide the necessary followup to reduce to the absolute minimum the number of children with permanently impaired hearing and to provide for the special educational needs for those children whose hearing cannot be restored to normal limits through medical or surgical treatment.

Audiometric Testing Procedures

Since the individual audiometric screening provides for greater accuracy in discovering cases of hearing impairment, provision was made for the employment of an audiometric technician, a fulltime audiometrician, and one halftime audiometrician. The audiometric technician was actually a clerical secretary but was trained in the screening techniques by the other professional staff. However, the two audiometricians were people with degrees in speech and hearing. The testing program was organized to audiometrically screen all pupils in kindergarten, second, fourth, sixth, eighth, and eleventh grades, all referrals from the teachers and other professional staff members, and those who had been previously detected as having impaired hearing. Each individual was screened audiometrically with the Beltone Audiometer, which was calibrated according to ASA standards at a 15 decibel level at 250, 500, 1,000, 2,000, and 4,000 HZS. Any pupil who did not screen normally was tested more thoroughly. This testing included obtaining both air and bone conduction thresholds on each pupil who had a hearing impairment.

Results and Discussion of Testing

The total screened population included all kindergarten, second, fourth, sixth, eighth, and eleventh grade pupils. This population will be referred to in the following table as the screened population. Pupils from all other grades and special education classes were tested only on a referral basis. These will be referred to as the referred population. Table 1 presents hearing loss data on the two populations.

TABLE 1

Audiometric Results with Screened and Referred Populations

Total screened population	15,086
Total audiograms of screened population	332
Percentage of hearing loss	2.2
Total referred population	2,139
Total audiograms of referred population	247
Percentage of hearing loss	11.5
Total tested population	17,225
Total audiograms of population	579
Percentage of hearing loss	3.36

It should be remembered that an audiogram was only made on any pupil who was found to have impaired hearing.

An analysis of the incidence of hearing loss by grade of the regularly screened population is reflected in Table 2.

TABLE 2

Percentage of Hearing Loss by Grade Level

Grade Level	K	2	4	6	8	11
Number screened	378	3,096	3,202	3,190	2,966	2,254
Number of audiograms	3	68	97	77	55	32
Percentage of hearing loss	.7	2.1	3.0	2.4	1.8	1.4

As you look at this table you will note a high percentage in the upper elementary grades with hearing losses This is not usually the case in that younger children generally have more losses because of diseased tonsils, childhood diseases, and upper respiratory infections. However, this increase in upper elementary pupils might be attributed to the fact there was not an adequate hearing conservation program when these children were younger.

An analysis of the incidence of hearing loss by grade of the referred population is reflected in Table 3.

TABLE 3

Percentage of Hearing Loss by Grade Level of the Referred Population

Grade Level	Special Education	1	3	5	7	9	10	12
Number screened	391	133	449	436	270	205	44	211
Number of audiograms	43	10	33	71	39	23	6	22
Percentage of hearing loss	10.9	7.5	7.3	16.2	14.4	11.2	13.6	10.4

The test results were analyzed by school to determine the percentage of hearing loss per school. A pattern of low socioeconomic culturally deprived population ranked highest in hearing impairment. An analysis of the number of hearing losses found in the regularly screened population as compared to the number found in the referred population indicates that a much higher incidence of hearing loss was found in the population referred by the teachers.

Figure 1 shows a comparison of the two.

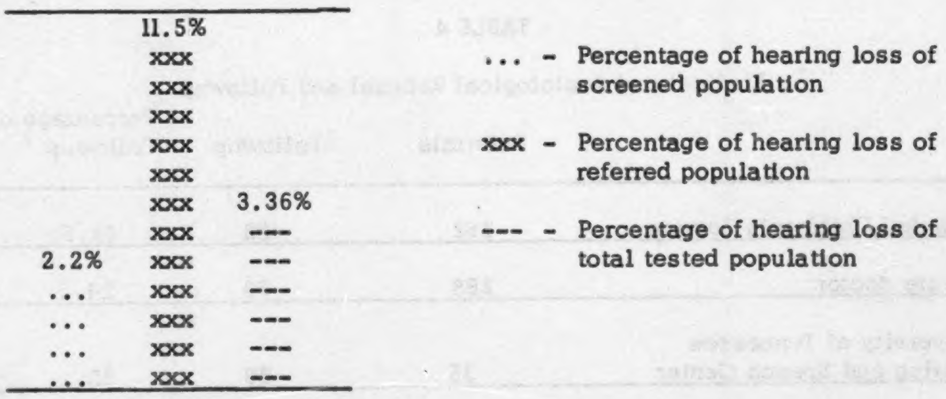


FIG. 1 A comparison of the percentage of hearing loss for the two populations.

This incidence of hearing loss in referred students indicates the critical role teachers play in detecting a hearing loss in their students.

Reporting Test Results

In order to carry out an effective Hearing Conservation Program, it was felt that the test results should be reported to the parents, teachers, principals, and other professional personnel who were concerned with the respective pupil. At the time of the testing, the Hearing Conservation team recorded the results on each child's permanent cumulative record and sent home to the parents a note, by each child, if his hearing was within normal limits. For those pupils who had a hearing impairment and needed additional followup, each pupil took home a pamphlet telling about the importance of good hearing and how we use our ears for hearing. This was done so that the pupil would not feel that he was any different from the other pupils. As soon as the testing was completed in a classroom in an elementary school, the teacher was immediately informed of the results of the testing and suggestions were made for any preferential seating in the classroom. In the junior and senior high schools, the audiometrician reported the test results to the guidance counselor and made recommendations for any special seating that might be needed. At the conclusion of the testing in school, the principal was given a summary report which included the number tested with the names of those who were found to have a hearing loss. The Coordinator of Speech and Hearing Services reported to the parents the results of the audiometric testing of those pupils who had a hearing loss at the time of the recommendations for followup which will be discussed later in this paper.

Medical and Audiological Followup

The Coordinator of Speech and Hearing Services analyzed the test results on each pupil who had impaired hearing in comparison to any previous test results and medical or surgical treatment. Of the 579 pupils found to have impaired hearing, it was felt that 550 of them needed ear, nose, and throat examinations and 35 needed audiological evaluations at a hearing and speech center. Tennessee is fortunate in having as a part of its State Public Health Program a division called Crippled Children's Service which provides medical treatment and/or surgery for the medically indigent pupil who has impaired hearing. The Coordinator contacted the parents and made recommendation for appropriate medical and audiological followup. Table 4 gives some idea of the medical and audiological referrals and followup.

TABLE 4

Medical and Audiological Referral and Followup

	Referrals	Followup	Percentage of Followup
Crippled Children's Service	262	122	46.5
Private doctor	288	70	24.3
University of Tennessee Hearing and Speech Center	35	30	85
Total	565	222	39.2

An analysis of the percentage of followup indicates that only 39.2 percent followed through according to our records. However, it must be remembered that the only basis on which the completed followup could be determined for the indigent cases was those who had carried out recommendations in applying for medical services from Crippled Children's Service and if they had been able to get an appointment in one of the ear, nose, and throat clinics by the time this data was collected. The completed followup of those referred to the private doctor could only be determined if they followed the recommendations made and if the medical reports had been returned. It is believed that many more pupils received medical attention than these statistics indicate.

The classroom teachers, principals, and guidance counselors were kept informed about the status of medical and audiological followup. Based on this information recommendations for educational implications were made.

Even though the classroom teacher of each elementary school pupil found to have a hearing loss and the guidance counselors in the junior and senior high schools were consulted concerning suggestions for classroom seating and appropriate teaching techniques, it was felt that the teachers needed a better orientation to the problems of the hearing impaired child as it relates to the public school setting. Therefore, a 8 mm color film titled "Patchwork" accompanied by a tape recorded narration was produced. It attempts to depict the role of the teacher in how she can better understand and teach the hearing impaired child in the classroom. Since this film was completed near the end of the year, it was possible to use it with only a few select groups. However it will be employed in future followup procedures in interpreting results of audiometric testing to the teachers.

Implications for Future Hearing Conservation Programs

The number of children who were referred for medical treatment, but for various reasons did not receive it, indicates the need for more thorough followup procedures. Since the classroom teacher plays a very vital role in the Hearing Conservation Program, it is hoped that the film "Patchwork" along with faculty meetings and individual conferences can be held in order to interpret the results of the testing program and help the teacher better understand her role in teaching the hearing impaired child. A number of children were found to have permanent hearing losses with indications that these students could perform more adequately in the regular classroom if they received hearing therapy on a short term basis. This would include auditory training, speech reading, and counseling.

HELPING TEACHERS MANAGE CLASSROOMS:

THE DECISION PROCESSES IN CLASSROOM MANAGEMENT

by

Raymond Cabot

Most teachers will agree that their classroom job involves two major areas, content and discipline. Content has to do with what is to be taught, discipline with maintaining the order thought necessary so that the teaching can be done. Most teachers will further agree that unless there is order, little learning is likely to take place. As a result, the emphasis in most classrooms is on discipline. Teachers have a well deserved confidence in their ability to manage content, but many are unsure of their ability to manage discipline.

However, it is well known that achievers, i.e., those students who are able to master most of the content, are unlikely to be persistent discipline problems. The converse is also true. Thus, one way of maintaining order for teaching is to provide as many students as possible with the opportunity for mastery of content.

The management system presented in this paper attempts to describe the decision processes involved in both areas, discipline and content. The system presents nothing new, but simply describes in slow motion what, in fact, teachers do.

Perhaps by presenting the process of management in slow motion, some of the strategies presently neglected may receive their due.

With reference to the accompanying diagram (see Figure 1), the steps are described as follows:

1. Does a behavior need managing? "Behavior" as used here applies to both content and discipline.

2. Describe the behavior to be managed. At this point the behavior need only be labeled: "Tim repeatedly interrupts during discussions"; "Bill should do more arithmetic problems."

3. Is the desired behavior now occurring? Nothing rigorous need be done at this point. Observation, either of overt behavior in the discipline area or of records in the content area, is all that is needed.

4. Can the behavior now occurring be measured? Measurement here is literal: frequency of occurrence must be measured quantitatively. If it cannot, it's probably because the description in Step 2 was too broad. For example: "Bill should do more work" *versus* "Bill should do more arithmetic work" *versus* "Bill should do more fraction problems." This step is critical, since any strategy developed later to manage the behavior cannot be evaluated unless a base measure is available for comparison.

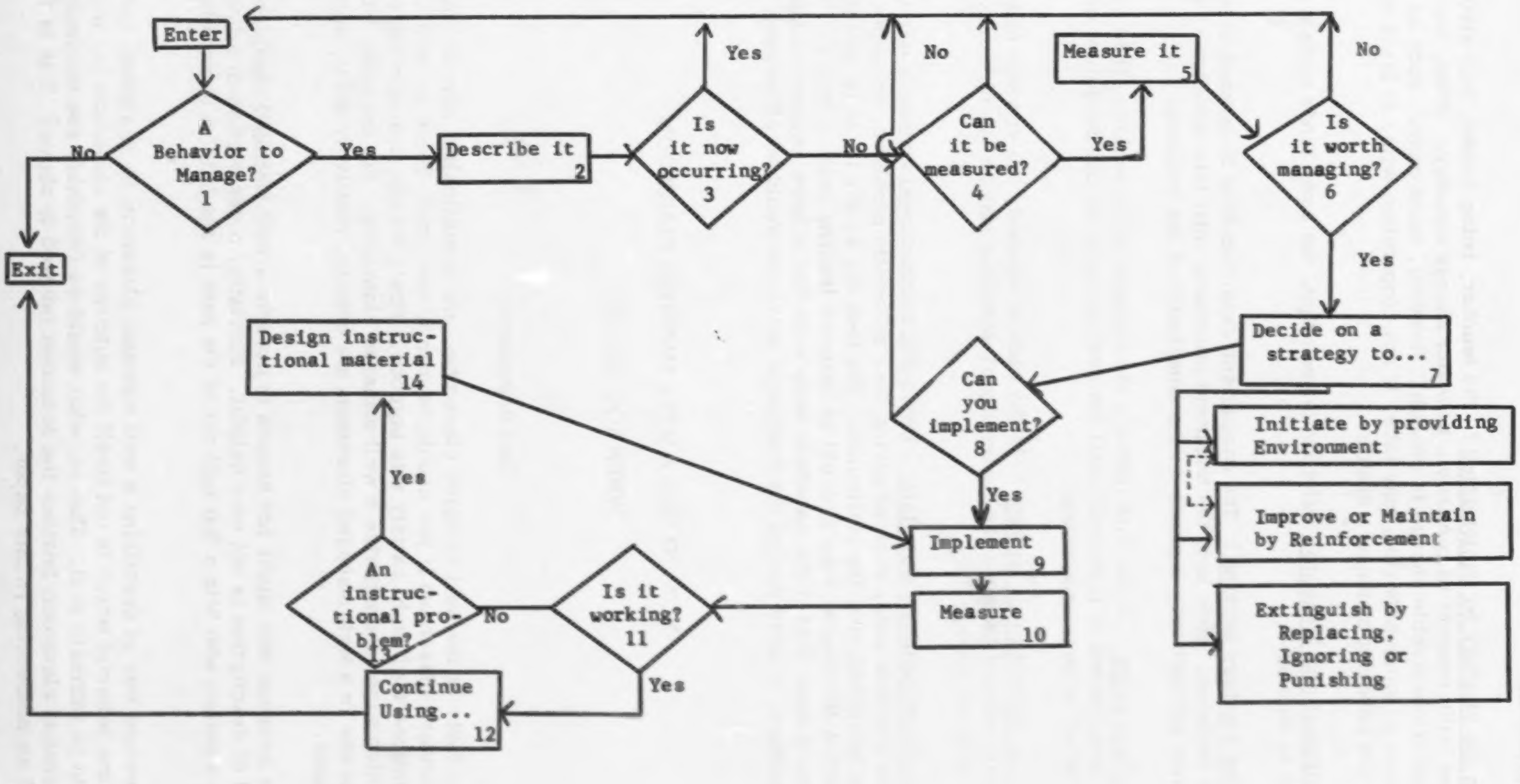
5. Measure the current behavior. The easiest way to measure is to count occurrences over time and plot these cumulatively. Ideally, the measurements should be made under the same conditions each time. The results of the baseline data will show whether or not the behavior is increasing, decreasing, or simply erratic. The idea here is to leave as little as possible to subjective judgment.

6. Is the behavior worth the time and effort needed to change it? The systematic changing of behavior, in order to have a more or less permanent effect, requires time, effort, and often cooperation with others. The data gathered in Step 5 can aid in this decision. Changing a group's playground behavior, for example, would require the cooperation of others in the school system.

7. Decide on a strategy. Initiate a behavior by providing an environment which will encourage the behavior to occur. Independent reading behavior, for example, cannot occur if there is no time provided, or if there are no books, or if the child can't read. Following the first approximation to the desired behavior (picking up a book, or even examining the bookcase), the problem becomes one or reinforcement of closer approximations (Improvement), and finally, Maintenance by continued reinforcement.

   Extinction is often accomplished by some form of aversive stimuli (punishment), usually introduced by the teacher with "If you don't (do or stop something), then I'll . . . ." While this strategy has the most immediate effect, its permanence is questionable, not to mention the detrimental effects on both student and teacher. However, this approach should not be confused with consistency, i.e., the teacher not only threatens, but carries out the threat each time. It is the inconsistency which is harmful, not the punishment. Replacement of an undesired behavior by a more desirable one, i.e., one which is highly reinforced is agreed to be by most to be more desirable than punishment. Ignoring an undesired behavior can be a useful alternative to punishment, but ignoring per se can have some undesirable side effects. It is best used with

FIG. 1. Management of behavior: A systems view.


Enter
A Behavior to Manage? 1
No
Yes
Exit
Describe it 2
Is it now occurring? 3
Yes
No
Can it be measured? 4
No
Yes
Measure it 5
Is it worth managing? 6
No
Yes
Decide on a strategy to... 7
Initiate by providing Environment
Improve or Maintain by Reinforcement
Extinguish by Replacing, Ignoring or Punishing
Can you implement? 8
Yes
Implement 9
Measure 10
Is it working? 11
No
Yes
Continue Using... 12
An instructional problem? 13
Yes
Design instructional material 14

replacement.

8. Can the strategy be implemented? The teacher, being human, will also need some reinforcement to continue a behavior change strategy. Often, success in terms of observable change is enough. However, some cases, such as a change in group behavior, may take, if not cooperation with, at least tolerance of, the behavior manager's efforts.

9,10. Implement and Measure. After implementation, the same kinds of data are kept as in Step 5.

11. Is the strategy working? The comparison data from Step 10 is used to make this decision. How long the treatment continues until this question is answered affirmatively depends on the complexity of the problem.

12. Continue using. If the data indicate the strategy to be working, it is continued (maintained or improved) until the desired behavior can be gotten without further or little reinforcement.

13. Is it an instructional problem? In the case of content, the strategy may not be working simply because the instructional materials may be too difficult, or not difficult enough.

14. Design instructional materials. Designing instructional materials can involve a simple step, such as giving less arithmetic problems, to such complex ones as redesigning the curriculum. The loop 14, 9, 10, 11, 13 is closed, although a NO loop at Step 13 could be inserted leading back to Step 7. However, it would seem that if the materials were such that a large measure of success is assured, a large part of the discipline problems would be alleviated.

HOW TO TELL A WELL MANAGED CLASSROOM WHEN YOU SEE ONE

by

Carl Semmelroth

Our topic is the well managed classroom, and specifically, how do you tell a well managed classroom if you should happen to see one? There are two kinds of descriptions that might satisfy this purpose. First, we can describe the outcomes which might characterize a well managed classroom. For example, what you might see in a well managed classroom are orderly, relatively quiet, successful students.

For someone who might not happen to observe a well managed classroom, this kind of description is not very helpful. Similarly, a description of a home run hitter as a person who hits a fair ball out of the park is not helpful to most ballplayers.

A second way of describing a well managed classroom is to attempt to describe some behavior which is not itself the outcome of the classroom but which appears to be intrinsic to it. That is, what would we invariably see happening in a well managed classroom besides the outcomes referred to above? This is the problem I am addressing in this paper.

I am also assuming a rather "utopian minded" approach to the problem. That is, I shall be attempting to describe an ideal combination of factors from the point of view of an assumed ideal outcome. This ideal outcome is, to put it bluntly, to have the teacher in charge of the classroom. What do I mean by "in charge"? What I mean is that the total effect of his influence on the behaviors of members of the class is more than the total influence of the class members on each other's behavior. Notice I did not say that the teacher controls a majority of the child's behavior; rather, the teacher has more control of a child than the control exerted on that child by other students. The distinction here is an important one. It takes into account the obvious, but often overlooked, fact that a child's behavior is regulated by things such as tasks, books, and pictures on the walls as well as by other people present. If you are bothered by the notion of the child's behavior being regulated by "things" such as books and self instruction programs, then you can think of these behaviors as being "self control" behaviors without disturbing the distinction which I am drawing.

Why have I partitioned the behaviors of a child into those which are controlled by things and those which are controlled by people? The reason is that the interactions between a person and a thing (whether the thing is a book or a sophisticated piece of programed instruction) are comparatively simple and tend toward stability, whereas person to person interactions tend to be relatively unstable and complex.

Before examining why this should be and what it has to do with classroom management, I will outline the assumption I am making about what constitutes control. This assumption is simply Thorndike's law of effect, i.e., that behavior is regulated by its consequences. It follows, then, that whoever controls the consequences controls the behavior. If consequences are presented by a book or a puzzle, then the book or the puzzle control (or perhaps a better word is "regulate") behavior. If consequences are presented by another person, then that person controls or regulates the behavior.

An example of behavior regulation by an object is that of an adult doing an arithmetic problem, i.e., every time he performs an operation in long division, there is a consequent arrangement of stimuli which is familiar and which guides his next behavior. Unfortunately, a long division problem does not serve to regulate a child's behavior unless the child knows how to do long division. There are, however, ways to construct materials so that they will guide a child's behavior through a series of "double" steps so that he ends up doing long division. These are so called "programmed" or self instruction materials.

An example of behavior regulation by another person is that of a teacher smiling at a student after or during a recitation by the student. This consequence will often result in the student's waving his hand to recite and watching the teacher's face while he is reciting. Another example of person to person behavior regulation is that of the student who waves his hand at the teacher when the teacher has previously called on him and smiled. This student behavior will often result in the teacher's ignoring the student's waving hand. The point of these two examples is that, when people are seen as administering consequences to one another which serve to regulate each other's behavior, we have a complex and oftentimes unstable situation. In this case, the student raised his hand, the teacher called on him, the student recites, the teacher smiled, the student raised hand, the teacher ignores hand, student waves hand, etc. Behavior can become unstable because it is at once shaped by and shaping other behaviors. In short, given the behaviors in a classroom which are not successfully regulated by tasks, program books, or other such "things," these left over behaviors are in some sense what need to be "managed," insofar as the situation is seen as being a "classroom."

We have, then, one answer to how we tell a well managed classroom when we see one, namely, a classroom in which there is no "class," only a room full of task regulated behaviors--when all the behavior is regulated by tasks and there is no interaction among students or between student and teacher. Therefore, there are no leftover behaviors for the group or the teacher to regulate. However, we ordinarily want to have classes in which there is interaction, if for no other reason than that we don't have enough tasks and they aren't "good" enough to effectively regulate student behavior for the lengths of time which the educational enterprise is required to deal with students. So, we return to the original question stated in a slightly different way: Given the behaviors in a classroom which are not regulated by academic tasks, how do we tell if the teacher has more influence on those behaviors than the influence generated by the interregulations among the class members? Or put in terms of consequences, how do we tell whether the teacher has more control of the consequences of behavior in the classroom than do the students?

When the question of management is framed in terms of having "majority control," as it were, of non-task behavioral consequences, two stubborn aspects of reality come to the fore. First, the arithmetic of class size is definitely not on the teacher's side. If we assume that each child in a class has an opportunity to administer a behavioral consequence to every other child in the class and count up these opportunities, we might have a rough measure of the amount of behavioral control the classroom administers to itself. For example, consider a classroom with three students, Jack, Henry, and Sally. Jack can administer consequences to Henry and Sally's behaviors (that's two); Henry can administer consequences to Jack and Sally (that's four); and Sally can administer consequences to Henry and Jack (that's six). On the other hand, the teacher of this class can administer behavioral consequences to three people. So in terms of the raw arithmetic of the balance of power, the teacher is a two to one underdog with a class size of three.

Consider what happens to this arithmetic if we increase class size. For a class size of 5, the score is 20 to 5, or 4 to 1; for class size 10, it's 90 to 10, or 9 to 1, and so on. In terms of the number of two person to person interactions possible as class size increases, we have 90 in a class of 10 students, 380 in a class of 20 students, 600 in a class of 25 students and 1,560 in a class of 40 students. According to this arithmetic, if we were to pay a teacher $10,000 a year to manage a class of 10 students, then we ought to pay her $173,000 a year to manage a class of 40 students, since there is 17.33 times more to manage in a class of 40 than in a class of 10.

Aside from the arithmetic of class size, a second stubborn aspect of reality comes to the fore when we pose the problem of classroom management in terms of whether or not the teacher has more influence on non-task behaviors than do the students. This has to do with the fact that students administer consequences to the teacher as well as the other way around. In order for the teacher to have any kind of chance at managing the classroom, she cannot be entirely "managed" by these consequences. If her behavior is managed by the class in the sense that it changes according to the consequences it produces, then the class will inevitably be in more control than she is. What this means is that, if the classroom is well managed and if we watch her behavior over a period of time, she will exhibit a style which is independent of the particular outcomes of her behaviors in class. Notice I did not say that she would exhibit some particular style of behaviors, but rather that she would exhibit some style. This means, especially, that when she is "punished" for a behavior, she continue to exhibit it. For example, asking John to sit down and then having to go and sit him down because he would not do what she asked him to do is a punishing experience. If the teacher were being managed by the consequences administered to her by John, then she would gradually (or not so gradually) cease to ask John to do anything which she didn't feel he would do.

I am expressly leaving the door open here on what set of behaviors, what style, may be better than some other. In fact I think it is possible that it is relatively unimportant whether a teacher runs a classroom by punishing, cuddling, buddying or rule mongering. What is extremely important, if she does not want the class to manage itself (and her with it), is that she be relatively impervious to the short term consequences of her behavior; this means that she will look pretty much the same way day after day. Put another way, she has a style.

We have, then, a second way of telling when we see a well managed classroom, that is, a classroom in which the teacher is in charge. We watch the teacher. If the teacher responds the same way to events in the class day by day, then the class is well managed.

In summary, then, I am suggesting that the essence of a well managed classroom consists of two things. First, that the proportion of task regulated behaviors to people regulated behaviors be large enough to give the teacher a fighting chance at behavior regulation. Second, the essence of a well managed class is that the teacher controls more of the consequences of student behavior than the students do. The only way that a teacher can exert more influence than the students is to have her behavior be unaffected by its consequences. A sign that this is the case is that her behavior is characteristic, i.e., essentially unadaptive in the day to day context of the classroom.

IF I HAD IT TO DO OVER . . .

by

George W. Fellendorf and Icie Harrow

If you had it to do over, what would you do differently?

This was only one of a series of searching questions asked of more than 500 parents of hearing impaired children from all over the United States in early 1969. The three page questionnaire was expected to elicit information on the experiences and concerns of a cross section of families who had at one time written to the Alexander Graham Bell Association for the Deaf for information or assistance.

The responses from better than 50 percent of the families contacted reveal striking insights as to the parents' experiences with professionals and their deep concerns for their hearing impaired children. By responding to questions like "If you had to do it over, what would you have done differently?" the parents exerted hindsight to identify what they felt were their own errors as well as the errors of those who were advising them.

The Sample

Since 1890, the Volta Bureau, headquarters of the Alexander Graham Bell Association for the Deaf, has been a source of information about deafness for thousands of educators, teachers, and parents as well as for the general public. Thus, it was to the already existing files at the Volta Bureau that the authors went for the names and addresses of parents of hearing impaired children to be included in the study.

The period covered was from 1961 through 1968. During this time approximately 5,500 parents of hearing impaired children wrote to the Bell Association and received a personally typed reply. A 3" x 5" card was prepared routinely for each of these families with a notation of the nature of the original inquiry as well as that of any subsequent correspondence. The cards are filed alphabetically by years.

In this study, every tenth card was pulled and a questionnaire mailed, by first class mail, to the family noted. Of the 550 mailed, 80 were undelivered by the post office and returned. We assumed, therefore, that 470 questionnaires reached the homes in which there was at least one deaf child.

There were 260 replies out of the 470 questionnaires delivered, a response of 55 percent (see Table 1). Some parents after returning the questionnaire felt compelled to write a few days or weeks later adding information that they felt was important and that they had omitted earlier. Many parents expressed gratitude for having been "selected" to participate in the survey. Though they were told that their names were not required, many parents freely offered their names and addresses and agreed to respond again if requested.

An important qualification must be added with regard to this sample. These respondents were those who could and did write to the Alexander Graham Bell Association for some kind of information and help. Thus they had to have known of the Association from some source and had to have the incentive to write a letter or a postcard. They might be viewed then as the "upper echelon" of parents of hearing impaired children at least as far as ability to write, incentive to seek help and finally in responding to a mail questionnaire which would take at least 30 minutes to fill out.

Popular Assumptions about Parent Attitudes and Experiences

A number of hypotheses were drawn up at the outset of this study. They were based upon the kinds of comments that seem to be repeated time and time again whenever parents of hearing impaired children get together. Some represent the experiences which parents say they have had with professionals, some refer to their children, and others have to do with their problems and how they have met them.

Each hypothesis, however, was felt to have relevance to the understanding of parent concerns and how they can be met. Those selected for reporting in this paper were the following:

1. The major concern of parents both at present and in later life is that their hearing impaired children receive a good education.

2. Most parents of hearing impaired children get incomplete and inaccurate information from their physicians and have to "shop around" before receiving an accurate diagnosis and proper advice.

3. Early diagnosis of hearing impairment is still a "hit or miss" affair.

4. The best advice to parents can come just as frequently from nonprofessionals as from professionals.

Results

Each of the hypotheses will be discussednow in the light of the response to the questionnaire.

Education is a major concern. Over a period of 8 years it was evident that most of the parents in this study consider a proper education as essential to their child's future. Without a doubt these parents feel that their child must receive an education that will equip him to eventually earn a living. Since education is universally viewed today as the answer to most of the world's ills, i.e., overpopulation, poverty, hunger, international good will, etc., this isn't surprising. In fact, it's quite possible that buried in this expressed concern for a good education are many of the parents' other ambitions for their children as well.

Thus, in answer to the question, "What is your biggest concern for your child today?" 65 percent of the parents who replied said, "A good education" and 30 percent "Good speech." When asked about their biggest concern in the future, however, only 40 percent replied "A good education" and the remainder of the responses were: 40 percent, acceptance by others; 10 percent, a good job; and 10 percent, good speech.

It is interesting that as these parents projected their thoughts to the future and viewed their children as adults, they expressed their aspirations more effectively by referring to the term "acceptance by others." Perhaps this is an indication that the "good education" so desired at the time by parents of younger children is in reality only a means to "acceptance" by the community as an adult.

While further details on parents' concerns and expectations for the future were not sought in this study, others have tried to determine how realistic the projections of parents for their handicapped children are. In one sample the aspirations of the parents of hearing impaired children were determined to be considerably more realistic in regard to marriage, employment, and school potential than were the aspirations of parents of blind, mongoloid, organic, and cerebral palsied children. If this sample observation by Barsch can be generalized to the present study, one might conclude that these parents of hearing impaired children have a pretty good sense of the future for their children. Whether this is based upon the advice they received or the understanding of the general public is not clear.

Inaccurate information from doctors. If there is one single universal target of attack by parents of handicapped children it is the medical profession. It's "open season" all year long on general practitioners, pediatricians, and otologists. Tales of misdiagnosis, no diagnosis, and paternalistic "head patting" of nervous parents by physicians are certain to be elicited in any group of parents if the subject is merely suggested. It was one of the purposes of this survey to confirm or deny these common allegations against the medical profession.

Before offering the results found in this survey, we might reflect for a moment on the circumstances which probably exist when the parents and physician meet to discuss a hearing impaired child. The chances are good that the parents have suspected that something was wrong for some time. They may have been trying to talk each other out of it for weeks or months before the appointment. In this study, for example, we found that in 70 percent of the cases, the father or mother was the first to suspect the problem and in only 7 percent of the cases was the physician the one who first called the parents' attention to the hearing loss. In 16 percent of the reported cases, it was the child's grandparents who first suspected a problem in hearing (Table 4).

In their first interview with a doctor, therefore, the parents may be given answers which they have feared privately for months. Certainly they would prefer not to hear the sentence that their child is deaf or hard of hearing. They may even have prepared themselves in advance to reject this diagnosis. Besides, "bad news causes resentment," so the doctor, in giving bad news to the parents of a handicapped child, is also sowing the seeds of resentment against himself as the bearer of ill tidings.

In this survey, however, there is not the overwhelming evidence of dissatisfied parents at the diagnostic stage as might be indicated. A total of 51 percent of the respondents indicated they felt "satisfied" after their first interview with a medical specialist and the other 49 percent were not (Table 6). Some respondents criticized the question, "Were you satisfied after this interview?" because they said they couldn't say they were really "satisfied" in the sense of having all the answers they needed. Rather they had enough answers to indicate they knew their child had a hearing problem and it was not going to be cleared up with medicine or surgery.

When asked, "How many specialists did you see before you were convinced your child had a hearing loss?" (another way of asking might have been, "When did you stop searching?"), we found that 81 percent of the respondents were convinced they had a hearing handicapped child after having seen from one to three specialists.

Many medical specialists would not normally have the expertise or the equipment to establish a positive diagnosis of hearing loss, particularly in a very young child, so it should not be surprising that more than one specialist would be consulted. Particularly if there was no previous family history of hearing loss (and there wasn't in 89 percent of the respondents Table 14), it probably represents responsible judgment and action on the part of parents to confirm a diagnosis of irreversible hearing loss by contacting at least one other specialist. It is also quite logical that the first specialist would have recommended other contacts for the parents.

The individual or setting which finally confirmed the hearing loss to the satisfaction of the parents seems to be evenly divided (Table 8) but it is likely that there is much overlapping and perhaps confusion of specialists and locations in their answers.

A question to indicate amount of time spent with the parents and child by the specialist yielded inconclusive replies, but individual replies indicated that anywhere from 5 minutes to several hours was spent before the label "deaf" was placed on some children. Barsch's study indicates that 69 percent of the parents of hearing impaired children in his sample felt that inadequate time was spent with them by the physician in discussing the diagnosis of their child. The other 37 percent reported that they had been given adequate time by their doctor.

If an indictment of the medical profession is in order as a result of this survey, it is in the area of the handling of the parent, not the child. Professionals enter their fields with little or no preparation for these encounters with parents. With an orientation toward a pathology and the pharmaceutical or surgical treatment of it, many of the physicians represented in this study apparently hadn't grasped the implications to the parent of that dramatic moment when the judgment of deafness is pronounced.

Listen to some verbatim comments from the parents:

> I waited 2 1/2 hours in his waiting room and in five minutes he pronounced my child deaf. He was cold and uncaring.
>
> He just said my child's loss was such that she'd

> never speak properly or be able to attend regular school.
>
> The otologist said she probably had a hearing loss, but since there was no audiologist available, he said we should wait a year and see if language developed.
>
> Our first doctor spent one minute testing her and said nothing was wrong. The second doctor spent two minutes, pronounced her deaf and told us to get ready to send her away to a residential school.

Barsch sought an evaluation from parents of the physicians' attitudes in discussing the diagnosis of handicapped children and got the following response: patient, warm, understanding--45 percent; abrupt, little empathy--35 percent; and satisfactory or adequate--20 percent.

Thus, there seems to be some justification for the criticism of the performance of a substantial number of physicians in their role as an advisor of parents of handicapped children. It is not the child who is the "patient" in these settings, but the parents of the handicapped child. Either the physician talks over the parent's head in technical jargon the parents can't understand, or he talks down to them in a way that is condescending and inappropriate to their new role as the managers of an exceptional child. Either way, the parents are neither satisfied nor equipped for their task.

The speech and hearing center specialist category seems to have shown up as the best source of advice to parents after they got into the hands of professional people (Table 11). It's not clear, however, from the responses, whether it was otologist, audiologist, speech therapist, or some other speicalist who offered the best guidance at the speech and hearing center.

Early diagnosis. What proved to be the warning signals of hearing loss in the young children in this survey and who first detected them? The reasons for suspecting hearing loss are about what might be expected when considering that the nonprofessional seems to be the first to question the child's hearing. The noticeable characteristics of failure to respond to sound and/or failure to begin to talk lead the list (Table 3).

Nosey, overanxious grandparents seem to have been restored to their rightful place of respect on the diagnostic team by the results of the survey regarding "Who first called attention to the hearing problem?" (Table 4). More than 16 percent of the cases reported that it was a grandparent who first called attention to the possible hearing impairment. In another 5 percent of the reported cases, it was a nonmedical friend of the family. Of course, in most of the cases reported, it was the father of mother who first suspected that something was amiss. But who is to say that this is not the most normal and expected way of early detection of hearing loss in children!

There is also strong indication that the methods of detection used are reasonably prompt, too: 50 percent suspected loss before one year; 40 percent suspected loss between one and 2 years; and 10 percent suspected loss after 2 years.

There was no detectable trend that the age of first suspicion of hearing loss dropped from 1961 to 1968 among the sample in this survey.

Once there was a suspicion of hearing loss among the children in our survey, things seemed to come to a head rather fast. Recognizing the doubts of the husband and wife, their attempts at deemphasizing the matter, false starts, and wrong advice, it is gratifying to see that in at least 70 percent of the cases, the child appeared to have been properly diagnosed in less than one year (Table 9). When you find that the parents reported 27 percent of the children in the sample as being multiply handicapped (Table 13) and thus quite probably subject to more thorough and time consuming diagnostic workups, performance on the part of the diagnostic teams of doctors, clinicians, parents and grandparents was not bad.

A factor not analyzed but which might have promise for further study is the fact that in 10 percent of the sample families there was a hearing loss of some degree present in some other members of the immediate family. It's reasonable to expect that, if a parent, older sibling, or grandparent had a hearing loss of unknown or suspected hereditary origin, there would be a high risk condition that would provoke earlier detection than normal.

The professional advisors. The giving of advice to others, whether requested or not, remains one of the great American pasttimes and, in the area of advice to parents of handicapped children, there is no slackening of the trend.

When asked who gave them the best advice, parents responded equally for their physicians, and "no one": physician, 30 percent; relatives, 10 percent; speech and hearing clinics, 9 percent; Volta Bureau of John Tracy Clinic, 10 percent; other parents, 11 percent; and no one, 30 percent.

It's not clear from the tabulation whether checking "No one" means that 30 percent got no advice at all or they received no good advice from anyone!

Virtually every parent who responded to the survey had had some contact with at least one other family with a hearing impaired child. Only about 10 percent denied that there was any value in meeting with other parents, most feeling that the opportunity to share experiences and to discuss school placements and other problems was of tremendous value.

Frequently parents reported the major benefit from making contact with other parents was that they "felt less alone."

Rightly or wrongly, 52 percent of the parents were convinced they got wrong or misleading information from someone (Table 12).

> He said, "Remove his tonsils and adenoids, then wait until he's four and send him away to the school for the deaf."
>
> He was pathetically uninformed about courses or what action I should take.
>
> He said, "Your child is retarded." (he wasn't).
>
> He said, "She's too young to test." (at age 3 years).
>
> He said, "He doesn't look deaf. Wait six months!"
>
> He said, "We can't test him at all until he's five."
>
> He said, "It's your imagination."

He said, "He's deaf and there's nothing you can do about it--goodby!"

He said, "I don't believe in putting hearing aids on young children."

Conclusions

While this was a survey of a select group of parents, it nonetheless demonstrates some important concerns and trends that must be of concern to the medical profession, educators, governmental agencies, and associations concerned with the hearing impaired:

1. While an increasing number of physicians are demonstrating their qualifications for diagnosing hearing impairment in children, few are evidencing an equal capacity for guiding the parents of such children in matters of education, family relationships, and the long range future.

2. If the parents had to "do it over," many of them would have started earlier to seek confirmation of their child's hearing loss, would have begun their child's education sooner, and would not have listened to anyone who advised them otherwise.

3. The hearing and speech center appears to stand out clearly as the setting from which most of the parents had their child's hearing loss confirmed and from which they received what they felt was the best advice.

4. Most of the parents looked upon a day school or day class as the most preferable educational setting for their child. Regional centers, if not local community centers, for the education of their children were viewed as vitally necessary.

5. Parents desperately need a person to whom they can talk about their concerns and their needs. Such a person could be a member of any one of a number o existing professional disciplines, but it is more likely that a new discipline, parent counselor, is indicated rather than trying to add these duties to those already in existence in other professionals. Prompt introduction of the parent to such a counselor would appear to reduce many parent concerns. The parent counselor would ideally meet the parents' needs in these areas: (a) someone who will listen; (b) explain the implications of handicapping conditions to parents--reeducation, social, vocational, and emotional; (c) answer questions on the medical diagnosis, outline alternatives; (d) acquaint parents with the accomplishments of other parents of similarly handicapped children, and help parents to find and meet other parents; (e) identify paramedical and educational facilities available to parents, explain the costs, and note resources for helping to meet costs; and (f) assist parents in understanding their role in the handicapped child's progress.

Recommendations

A more precise and extensive investigation should be undertaken to establish:

1. The extent to which a lack of understanding and of information by the parents of hearing handicapped children impedes the most effective use of existing medical, paramedical and educational facilities.

2. If, in the opinion of the parents of handicapped children residing there, any

3

countries, states, or communities have been providing satisfactory parent counseling.

3. The relationship between socioeconomic status of the family and/or community and the type, quality, and usefulness of available resources for the hearing handicapped child.

4. The effect of a well organized, well publicized, properly staffed counseling service for parents of hearing impaired children in a metropolitan area. In particular, it should be established whether such a counseling service provides specific, positive advantages to physicians, clinics, schools, and social service agencies as well as to the parents in the area. The needs of multiply handicapped children and their parents should also be highlighted.

While this study was selective, it tends to support the contention that there are still many handicapped children in this country who are not benefiting from federal, state, and local resources because their parents are not being properly guided to use them. Continued investment in research and improved services, therefore, cannot achieve its desired impact on the lives of handicapped children until the parent information gap is closed.

TABLE 1

Questionnaires mailed	550
Less returned as undeliverable by Post Office	80
Total questionnaires delivered	470
Questionnaires answered and returned	260

Year of initial inquiry from parents		Number of completed questionnaires
1961-63		48
1964		27
1965		44
1966		61
1967		50
1968		30
	Total	260

TABLE 2

How Old Was Your Child When You First Suspected He Couldn't Hear?	Percent
One year or under	54
1 years	18
2 years	12
2 years	7
3 years	4
3 years	2
4 years	1
4 years	1
5 years	1

TABLE 3

What Made You Suspect a Hearing Loss?	Percent
No response to sounds noises, voices	60
Did not begin to talk or develop language	28
Mother had rubella - suspected child might be deaf	7

TABLE 4

Who First Called Attention to the Hearing Problem?

	Percent
Father or mother	70
Grandparents/Relatives	16
Doctor	7
Friend	5
Teacher/School	2

TABLE 5

If You Took Your Child to a Specialist after You Suspected a Hearing Loss, What Kind of Specialist Was It?

	Percent
Otologist	47
Pediatrician/General Practitioner	22
Speech and Hearing Center/ Specialist	30
Neurologist	1

TABLE 6

Were You Satisfied With the Diagnosis Given by the First Specialist You Visited?

	Percent
Yes	51
No	49

TABLE 7

How Many Specialists Did You Visit Before You Felt Confident You Knew the Nature of Your Child's Hearing Problem?

	Percent
One	28
Two	31
Three	22
Four	9
Five	3
Six	2
Seven or more	5

TABLE 8

Who Finally Confirmed the Hearing Loss?

	Percent
Speech & Hearing Center/ Specialist	63
Otologist	22
Pediatrician/General Practitioner	14
School (testing service)	1

TABLE 9

How Much Time Elapsed Between the First Suspicion of a Hearing Loss Until You Had It Fully Confirmed?

	Percent
Less than 1 year	70
1 year	16
1 years	9
2 years	2
2 years or more	3

TABLE 10

Who Gave You the Best Advice Before You Went to Any Kind of Specialist?*

	Percent
Pediatrician/Doctor	36
Speech and Hearing Clinic/Specialist	16
Relatives/Friends	14
A.G. Bell Assn./Tracy Clinic	4
Teacher	1
Nurse	5
Other parents of deaf children	1
Social worker	1
Read books on deafness	1
Crippled Children's Services	1
School for deaf	5
"No one"	24

*It is evident that this question was misunderstood as many respondents answered by naming a specialist.

TABLE 11

Who Gave You the Best Advice After You Had Been to One or More Specialists?

	Percent
Pediatrician/Doctor	13
Speech and Hearing Center/Clinic	37
Relatives/Friends	4
A.G. Bell Assn./Tracy Clinic	17
Teacher	9
Nurse	5
Other parents of deaf children	4
Crippled Children's or other services	2
School for the deaf	4
Priest	1
"No One"	9

TABLE 12

Do You Think You Received Incorrect or Misleading Information From Anyone?

	Percent
Yes	52
No	48

TABLE 13

Hearing Impaired Children With Additional Handicaps

	Percent
Indicated Multiple Handicaps	27

Additional handicaps included brain damage, aphasia, cerebral palsy, partial blindness, mild vision defects and mild cerebral palsy.

TABLE 14

Do You or Any Other Member of Your Immediate Family Have Hearing Problems?

	Percent
Yes	11

ABSTRACT

LEARNING APPROACHES TO STUTTERING

by

Bruce R. Ekstrand

The basic assumption to all learning theory approaches to stuttering is that stuttering is a result of experience and, as such, can be treated through the manipulation of experience. However, there are a substantial number of specific learning theories which differ in their emphasis on stimulus-response mechanisma, theoretical interpretations of reinforcement, and classical or instrumental conditioning. Furthermore, there is disagreement among theories regarding the principles governing the conditionability of voluntary and involuntary reponses.

The purpose of this paper is to review the basic principles of the major learning theories and show how they might relate to the genesis and treatment of stuttering. The learning theories of Hull and Spence, Guthrie, Tolman, Skinner, Mower, and Miller will be the focus of the discussion. Particular emphasis will be placed on the recent work of Miller which demonstrates instrumental conditioning of autonomic responses. The learning principles discussed in this paper should provide a framework for understanding the rationale behind the existing behavior therapies to be covered in the program on stuttering.

ABSTRACT

THE USE OF SYSTEMATIC DESENSITIZATION WITH SIMULTANEOUS FEEDBACK IN STUTTERING THERAPY

by

John C. Rosenbek

The purpose of this paper is to outline a clinical paradigm for the treatment of stuttering in adults. Based on Brutten and Shoemaker's (1967) theory that the repetitions and prolongations characteristic of most stuttered speech result from the disruptive effects of learned anxiety responses on the complicated neuromuscle activity necessary for fluent speech, this paradigm progresses through three phases. Phase one is the construction of hierarchies of anxiety evoking stimulit. Methods of determining these stimuli and ordering them into thematically similar hierarchies are presented. Phase two is the operant conditioning of deep muscle relaxation. A promising method of conditioning relaxation still under experimental investigation is outlined. Phase three is progressive desensitization to anxiety evoking stimuli adapted for stuttering therapy from the technique employed by Wolpe and Lazarus (1967) in their treatment of neuroses and phobias.

EARLY CHILDHOOD EDUCATION

CHILDHOOD DISABILITY: A CASE FOR EARLY INTERVENTION

by

Francis X. Blair

Man is a social being but he is not a social insect. Man's existence in society is an interactional process of the most complex form. Such complexity results from the tremendous adaptability and modifiability which the mind of man permits. An indication of man's complexity is his essential unpredictability. Joseph Wood Krutch, the philosopher and naturalist, has pointed out that "There is no juvenile delinquency in a termite colony" and one is compelled to reply, "Amen, but who wants to live there?"

The essence of being human is to be free of the kind of utopian constraints which provide a sombre and stulifying law and order to be insect societies. Man's freedom is not merely to respond to or act within an environment but to reflect on that environment along the dimensions of time and space. Man's freedom is based in his capacity for self awareness, that is, his personal realization of himself but in relationship to his human companions. Man is not only an object in the world, man is the world. But since each man is unique--and this will be argued by certain behavioral scientists--there are many worlds.

Each man creates his own reality and he creates it by the use of mind. Mind implies thought and thought implies symbolic representation--the process of dealing with reality in a reflective way; the process of internalizing time and space and the objective environment.

What makes man unique among living creatures is his ability to learn and use language. Man is a linguo cognitive being. Therefore, a compelling rationale for early intervention in certain kinds of disabilities is the stimulation of the growth of mind through language. I do not intend to argue the point of whether cognitive growth is entirely precluded without language. I am simply going to state arbitrarily that to be human is to have the potential for communicating with one's self as well as with others.

I should like therefore to suggest a definition of language based on the premises just discussed:

> Language is a uniquely human mental process by means of which reality is interpreted and represented to one's self and which in turn provides the basis for the transmission of realized experience to other humans by means of mutually arranged auditory, visual or tactile coding systems.

One may disagree with the wording of this definition while at the same time be accepting of the notion that the growth of language implies the transformation of an essentially biological organism into an existing self aware individual.

It is possible to schematize the requirements of this transformation. On the one hand we can indicate the environment, a large E subdivided into smaller subenvironments representing, as a general rule, the significant adults in the family constellation. On the other hand, we have the biological individual which might be designated as a small i. The interactional process begins with the birth of the individual. The environment, represented usually by its agent, the mothering figure, must initiate the nurturing process which originally is primarily physical but which rapidly becomes affective--physical nurturing leads to the establishment of a "loving" relationships which is basic to all subsequent cognitive development. It is important to stress, of course, that the environment must combine an effective component with its physical care. There is then a mutuality of affectional contact which serves as the foundation for future development.

There are then, two sides to the development coin, the ingredients supplied by the milieu in which the potential learner is located and the capacity for accepting and utilizing these ingredients by the learning individual. We may briefly examine the contributions and requirements of both environment and the individual.

The literature is by now reasonably replete with research findings suggesting the prime essentiality of what has perhaps become an overworked term--early stimulation--but the term is nonetheless valid. Studies involving a wide range of subjects in a variety of settings--from rats in mazes to dogs reared in and out of cages, to children raised in sombre and neutral substitute homes--indicate substantial negative effects on learning and development. Interestingly enough, developmental delay seems not to be necessarily related to motor inactivity, as Dennis revealed in his study of the Hopi children. Such children carried on the backs of their mothers for the first year of life were found to be not developmentally inferior to their Hopi counterparts who "crept and crawled" during their first twelve months. Hunt suggested that what was perhaps important to these confined children was not their immobility but the stimulation provided by their being moved through an ever changing environmental scene. Hunt also suggested that even painful stimulation may be beneficial, contrary to certain ideas we may hold about the negative effects of discomfort. Hunt's idea is defensible if, for example, we can hypothesize that sensory stimulation may have biological consequences, more precisely, biochemical alterations affecting the production of ribonucleic acid. In the light of recent medical research in this area it appears to be an entirely tenable hypothesis.

The environment's role in the development of the individual, although accepted as being highly relevant, appears not to have been studied as systematically as the individuals within it. Benjamin Bloom suggested that little has been done to measure environments with which individuals interact. He wrote:

> ...much of what has been termed individual variation may be explained in terms of environmental variation.... If we hypothesize that a major change in the environment will bring about corresponding changes in the characteristics (of the individual) then...we will need measurements of the environment and its changes as well as measurements of the human characteristics and their changes.

There are evidences of a greater concern with the contributions of the environment and in the ways in which intervention needs to be introduced.

The impact of the interactional process on language development has been the subject of investigators such as Susan Ervin, Roger Brown, and Ursula Bellugi. Brown and Bellugi demonstrated through studies of language behavior in the home that the development of a child's syntax is related to three factors:

1. Child's imitation and reduction of model utterances by the mother or some other significant figure.

2. The mother's imitation and expansion of the child's utterances.
3. The learning of a latent structure in language which permits the child to generate syntactical statements he has never actually heard.

These kinds of linguistic interactions can be observed and described even if precise measurement is difficult and perhaps not entirely necessary. However, it would be important to recognize the significance of this dynamic process in relationship to both culturally disadvantaged and auditorially deprived children. Imitation and expansion of a child's utterances are not only a reinforcement of the child's communication act but they are a verification of the child's validity as a communicator, as a human communicating being. It can be suggested, for example that the young ghetto child living in confined quarters with many siblings and more often than not in a single parent environment does not receive either the language reinforcement or the verification of his self as a person. The difference between white and black is more than the color of the skin; there is a significant difference in the degree of self appreciation as an interacting individual. The result of this kind of deprivation may be the failure of the proper establishment of an affectional foundation compounded by the failure of a proper language mode for cognitive growth.

To suggest that the auditorially handicapped child is a deprived child is perhaps asking for unkind reactions particularly because of the concept that word deprived has come to represent today. On the basis of what has been said about the normal interactional process in language development, however, it can scarcely be argued that the deaf child typically is deprived of a normal means of both learning about his world and relating to it. We specifically refer to the deaf child rather than the hard of hearing child. DiCarlo has recently argued convincingly that the hard of hearing child--of course with proper educational intervention--may achieve speech, language, and cognitive development which is close to that of the hearing child.

But what about the deaf child? His academic restrictions are well documented it seems. Boatner and McClure have presented evidence that 30 percent of deaf children over the age of 16 years are functionally illiterate and that 60 percent of this same group are academically at grade 5.3 or below. Similar results are reported by Wrightstone, et al. These are appalling figures which leave no doubt as to the massive failure of our educational approaches to the deaf child. Or has it been only educational, or has it been education too late or are there variables related to the early home life of the deaf child? Vernon suggests that "most parents do not communicate with their deaf children except on the most superficial level," unless they are deaf in which case they do communicate with the manual language. There is little reason to question the establishment of an affective relationship in their cases because it is recognized that this is possible by nonverbal means through bodily contact and facial expression, for example. But what is the impact of early communication deprivation and particularly what is the impact of the emphasis on the oral method of communication? Or is it the method which is critical? Is it perhaps the age of intervention which is more critical? I would be inclined to favor the latter view at least until more evidence is available regarding the value of early introduction of the manual method.

Basil Bernstein has suggested that a significant dimension of cultural deprivation is the restricted social context within which one operates. In terms of communication he speaks of restricted codes and elaborated codes. A restricted language code essentially limits an individual to a superficial interactional process much like that of the typical cocktail party. The restricted code tends to devaluate the individual. The elaborated code on the other hand permits a wide range of freedom of communication choice, tends to impart meaningful dimensionality to interactional situations and even more important, makes the individual self available for verbal exploration.

It seems logical to propose that communication disabilities of various kinds --hearing impairments, aphasia, certain speech disorders, and even mental retardation--predispose the individual to the development of a restricted code which may have deleterious effects on social interaction, cognitive growth, and self concept.

I am suggesting that intensive efforts need to be undertaken to insure the early detection, educational programing, and proper home management for disabled children, particularly those with manifest communication handicaps. This certainly is meant to include those thousands of children who are racially and ethnically different and who, unless massive steps are undertaken, will continue to be brutalized by an affluent society squandering billions of dollars on unrelated activities. It will take money and it will take manpower. As educators, as taxpayers, as parents, as humans capable of understanding our environment, we must force our legislators to reverse the tide of national destruction and genocide and to promote the human welfare. In words of Thomas Merton, "We have more to do then sing hymns while the ship goes down."

ABSTRACT

AN EXPERIMENTAL LANGUAGE PROGRAM FOR PROJECT HEAD START

by

Stan S. Cooke

Poverty of vocabulary and a poverty of words in responses of children from low socioeconomic families have been documented (Raph, 1967). These children have been shown to be handicapped in both comprehension and expression (Lerea, 1958). In fact, language seems to be one of the central handicaps of the disadvantaged child (Raph, 1967).

The original objectives of the Head Start program were not large in scope, but stress was to be placed upon the development of language skills (NEA, 1965; Granite, 1966). A review of publications concerning Project Head Start released by the Office of Economic Opportunity revealed no guidelines for the techniques or personnel to be employed in the areas of speech and hearing (ASHA, 1965).

With this in mind, a pilot study was conducted in the Knoxville, Tennessee, Head Start program during the summer of 1967. This study was designed to evaluate the receptive/expressive language levels of Head Start children. The main purpose of the study was an attempt to evaluate certain remedial approaches to language problems.

Included in this study were 128 children from 2 Head Start centers. At the beginning of the summer program, the mean chronological age for the children was 5 years, 11 months. Each child was given the Peabody Picture Vocabulary Test to measure recpetive language level, the vocabulary section of the Houston Test to measure receptive language level, and the vocabulary section of the Houston Test to measure expressive language level. The mean mental age for the children on the Peabody test was 4 years, 7 months. On the Houston tests, the mean

mental age was 4 years, 4 months. On the combined scales, the mean language level for all children was 17½ months lower than their chronological age.

After the initial testing the children were divided into three homogeneous groups of as near equal size as possible. Each group was then treated differently as to remedial language instruction. The first group had 7 forty-five minute language sessions stressing animals, colors, and activities spaced over a 4 week period. These sessions were conducted by graduate majors in speech pathology from the University of Tennessee and were conducted in the regular classroom.

The second group employed the Head Start teachers who were instructed in methods of language stimulation for 5 one hour sessions and were provided with teaching materials. The third group had no alterations in the regular Head Start program.

During the seventh week of the program all children in the 3 groups were retested. On combined receptive and expressive language measures, Group 1 had a mean improvement of 10½ months. Group 2 had a mean improvement of 3 months. The third group had a mean improvement of 2 months. It might be noted that the children had all been in the program approximately 2 months and one could assume that 2 months of maturation could possibly occur. If this is a valid assumption then the children in the regular Head Start program made no gains in language other than what would be expected with the passage of time. All data were subjected to statistical analysis to determine if there were statistically significant differences among the 3 groups in amount of improvement. An F ratio was found to be significant at the .05 level of significance.

The main purpose of this study was to evaluate the types of language deficits of Head Start children and to design a language program which would bring language age and chronological closer together.

The resulting experimental program improved the receptive/expressive language levels by 10½ months as compared to only a 2 month increase for those in the regular Head Start program.

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ABSTRACT

PILOT LANGUAGE DEVELOPMENT PROGRAMING FOR HEADSTART

by

Sara Ivy

We are agreed that the culturally deprived child has a language problem, that language deficiency prevents educational achievement, that language training will change intellectual scores and cognition, and that the younger the child the greater the development.

We continue to be troubled with the nature of the deficits which interfere with school learning and with the development of new content, teaching strategies, and evaluation designed for remediation of deficits. It is with the latter problem, development of new content and teaching strategies, that these studies of my paper are concerned.

In reviewing the literature of the culturally deprived children--lower socio-economic whites and blacks and inhabitants of the ghettoes--we found these assertions made regarding language and linguistic development:

1. Many of these children tend to be nontalkers.
2. Many have poor voice volume--some too loud and some too low.
3. Blacks listening behavior is different from the middle class whites--fail to make and keep eye contact.
4. Tendency for poor verbal reasoning.
5. Inappropriate social behavior.
6. Tendency to be unable to use language to transmit information or to monitor own behavior.
7. In general, tend to be at least one year retarded linguistically.
8. Poor use of auditory channel.
9. Phonetic and phonemic retardation other than dialectal usage.
10. Use phrases and sentences as if they were one word.
11. Effective teachers often make the difference.
12. There is a poverty of vocabulary.
13. Lack experience in understanding and using relational and positional concepts, past and future tenses, and cause and effect sequences.
14. Classify material on the basis of nonessential attributes, e.g. when grouping pictures of animals the lower class children would explain their reasoning on the basis of "they all have legs," in contrast to the middle class child's explanation that "they are all animals."

Psychologists, linguistics, psycholinguistics, and speech pathologists have proposed and sought to answer several questions, in regard to the nature of the deficits which interfere with school learning, the language system, the influence of class linked variables in the early life of the child on the development of language, and the development of new content, teaching strategies, and evaluation designed for remediation of deficits (Raph, 1967).

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ABSTRACT

PREDICTION OF INTELLECTUAL DEFICIENCY AND SCHOOL FAILURE DURING INFANCY AND PRESCHOOL YEARS

by

Marilyn T. Erickson

Early prediction of intellectual deficiency is generally considered to be important because it provides the opportunity for the development of intervention programs which would maximize the handicapped child's potential and prevent secondary emotional disturbance. Identification of deviant children at an early age would also aid school systems by giving them advanced notice to plan for facilities--in contrast to the present situation in which most children are identified as being handicapped either after they have entered regular school programs or shortly before school entrance.

Several studies have demonstrated that infant developmental or intelligence tests can be used to identify children who will later be diagnosed as mentally retarded. While it is widely known that infant tests do not effectively predict later intelligence for normal children, relatively few professionals who work with young children are aware of the ability of the tests to discriminate between retarded and normal children. A significant endeavor must be made to educate those professionals likely to have contact with infants and young children--physicians, public agency personnel, nursery school and kindergarten teachers, and psychologists--regarding the possibility and potential advantages of early diagnosis and intervention. The theory that retarded infants and preschool children "grow out of it" has not been supported by research findings.

An increasing number of studies are examining the relationship between results from standardized tests given during the kindergarten year and achievement during the early school years. The aim of these studies is to identify children with the subtler developmental problems which prevent them from mastering specific tasks normally required for success in the early grades. The best predictors appear to be those tests which emphasize visual perception. Prediction of specific learning disabilities during the preschool years provides the possibility for development of programs to prevent the academic failure and adverse emotional consequences usually experienced by children with these disorders.

While much of the basic and applied research on early diagnosis and inter-

vention with handicapped children is yet to be done, several ongoing programs suggest promising results. These studies are focusing on the prediction of developmental and behavioral deviancy with newborn infant tests, the usefulness of screening tests in identifying retarded children, and educational programs for preschool children with learning disorders.

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PROGRAM ISSUES IN PLANNING FOR PRESCHOOL CHILDREN

by

J. William Rioux

Confronted with a topic as broad as issues affecting programs for young children, one must make a decision on strategy. In an over simplified sense, my options were to (a) make a cafeteria style presentation of new and interesting aspects of programs being conducted for young children in the United States and abroad, or (b) stay closer to a presentation which involves a more detailed knowledge of a smaller number of efforts underway or being discussed in an institution with a 50 year reputation for concentration on affairs dealing with human development and family life--The Merrill-Palmer Institute. I have chosen the second. I doubt that this will be too severe a limitation for purposes of stimulating discussion and should provide the advantage of a firsthand knowledge of the programs and possibilities discussed. Without apology I will weigh my comments heavily in the direction of children from low income and/or minority backgrounds, although much of what I will say can easily be viewed as of general import to children of all economic backgrounds. I will rely on my colleagues on this panel to emphasize international aspects.

The impingements on the growth and fulfillment of young children are obviously many and my interests cover quite a spectrum from infant stimulation and a better understanding of curiosity and imagination in infants to neurological and perceptual problems which impede or stop learning and the ever increasing seriousness of social and emotional problems in young children which with the passage of time we appear to be addressing with less and less relevance. What I have decided to do is focus on two broad areas of concern--the apparent low functioning or pseudomental retardation of many children in the young population, and some delineation of thinking about returning to a study and better understanding of the family as a key to effectively increasing perceptive work with children.

In preparing for this presentation I was struck by the significance of a statement in an article by Romaine Mackie (1967), a pioneer in the better education of children who suffer handicaps of all kinds and a person influential in the formulation of many special programs to address these needs. The observation was that in the files of a large urban school system in this country covering a 50 year span of time there was a perceptible pattern of diagnosing or listing immigrant or minority population children in disproportionate degrees as educable mentally retarded. First, it was a heavy representation of children with Italian names, later Chinese, in more recent year, Mexican American, and most recent of all, Negro. To me it was a sharp reminder that we are, all of us, carrying around considerable baggage related to perceptions, expectations, prophecies, and limited knowledge which have much to do with the way we think about and program for work with children, including preschool children. Let me detail some examples.

As persons in a variety of professions who deal with young children, we either give only passing acknowledgment or none at all to the factor of food--its sufficiency or insufficiency in the lives of children with whom we deal. In a recent publication by Scrimshaw and Gordon (1968), an impressive and growing body of data is presented which should cause all of us to become more sophisticated about this aspect in the planning we do for young children. Scrimshaw has, in a speech made at the Merrill-Palmer Institute in the past 6 months, expressed the view that there is increasing evidence that undernourished, malnourished children may have suffered irreversible central nervous system damage at a very early age--perhaps age 2 or soon thereafter--resulting in long range effects on learning and behavior. The concern is in part capsulized in the statement that the brain of the human infant attains 80 percent of its adult weight by age 3 although the body is then about 20 percent of adult size. Most of Scrimshaw's study populations and those of his colleagues were abroad because of the political atmosphere in the United States which until recently denied the existence of malnutrition and starvation in the United States. It is little wonder then that our European counterparts have long viewed as an important societal responsibility the adequate and comprehensive feeding of infants and children in day care and preschool operations. In the context of these developments I would raise the question of the different kinds of planning we must do and additional professional alliances we must form to more adequately respond to the needs of young children.

As an additional commentary on this point let me indicate that the nutritionist on the staff of the Merrill-Palmer Institute is underway with a study of inner city children in an attempt to determine the level of malnutrition which exists, its effect on mental functioning, and the possibility of recouping mental capability after experiencing a more adequate diet--in some ways taking a closer look at American counterparts to Scrimshaw populations. The going is not easy and the early results are somewhat confusing in that there appear to be few significant discrepancies in the nutritional deficiency levels of low income and middle income populations. We are increasingly suspicious that we may be misled by the measuring instruments and definitions used, but only a great deal more investigation will help us know.

In a related area and one which I do not want to explore here because of time I would draw attention to the fact that we must better understand the way in which illness or perhaps better stated, the condition of unwellness, siphons off the impact of our best efforts with children. In a recently published study of illness among low income and minority populations financed by Blue Cross, (1968) one of the persons interviewed said, "People just didn't use to be sick as much as they are today. They died when they got sick and didn't live sick." To live sick is a circumstance and a dynamic which few of us yet understand sufficiently to be helpful in planning.

There is much important work underway in this country with regard to infant stimulation as a way of overcoming environmental restrictions with which we must become increasingly aware. Kagen at Harvard, Gordon at University of Florida, and a host of researchers in a number of other institutions including Merrill-Palmer, are beginning to shed light on previously unrealized potential to not only cancel out aspects of deficient environment which normally produces children who appear apathetic and of low potential, but, more important, to give clues as to the true capability of these children. Unless we both know and understand these current efforts and their implications, we will be planning for children from low income areas in the context of stereotyped thinking and limited expectations. Let me in a general sense recommend the March 1969 issue of Phi Delta Kappan Journal as one which contains a large number of thoughtful articles on early childhood education.

Our notions of children's readiness to learn strike me as both preservative and contradictory. We have among other things unendingly assaulted age as an arbitrary reference point for school entrance, have endlessly asserted that girls are ready for learning sooner than boys, and have, while applauding Head Start, downgraded the need for the possession of facts and knowledge as prime factors in beginning success in school. Our own investigations into readiness for school which now cover a 15 year period have identified 69 variables of readiness for examination and have, in a first major progress report soon to be published, concluded that 7 of the variables appear statistically to be of principle importance. They are: (a) Cognitive readiness, (b) Chronological age, (c) Reading readiness, (d) Body of knowledge, (e) Hormonal factors, (f) Physical development status, and (g) Perceptual differentiation.

You will note that several of the old saws are damaged in this listing and that we should feel under increasing pressure to replace our conventional wisdom with more thoughtful and researched understanding of developing children.

Our mind sets or outlooks on certain children definitely influence our level of effectiveness and influence with children. The study by Rosenthal and Jacobson (1968) is a good case in point. In the study teachers were told that certain children in their classrooms possessed much potential for learning growth, indeed were close to a growth spurt, and achieved at much higher levels and at a faster pace than children of similar ability in the same classroom who were not singled out. I remain convinced from my own experience that the key to the successful use of federal and state monies earmarked for children from low income is large, initially disproportionate amounts of money directed to a variety of efforts designed to upgrade, change, and increase the sophistication of teacher perceptions of children in ways that might elicit the potential of children rather than promote the view of some of them as carriers of deficiencies and handicaps which foretell the outcome. I speak now in behalf of new and imaginative training styles for personnel who work with young children.

We are, at Merrill-Palmer, trying to assault a perception of a somewhat different but related nature which affects many persons dealing with young children. We are attempting to explore a hunch that in the difficulties and problems of relationships and learning of 4 year olds the problem focus is more in the area of differences in socioeconomic class rather than differences in race. If this hunch proves to have some merit we hope to follow through on the ripples in the pond which take the form of revised teacher approaches, materials, and program efforts with adults.

A vast oversight in dealing with young children concerns children's play. Even among the more sophisticated children's play, particularly outside play, is viewed primarily as a time for children to let off steam, get some fresh air, and give the staff a breather. We are not sufficiently attentive to the ways play could tell us more about children's attitudes, learning deficiencies, relationships, special competencies, and superior abilities. Part of our attitude is contained in the very plan areas and pieces of play equipment which we use and in unquestioning fashion have provided. What we have is fixed pieces of play equipment some of it like or very like that which we knew as we grew up, some of it inherently physically dangerous. By contrast I was impressed several years ago while visiting a series of large urban areas in Europe to see advanture playgrounds in operation--little or no fixed equipment, heavy use of dispensible materials, in-corporation of animal residents, and much provision for the shaping and reshaping of one's play--creating out of one's mind that play or play form which was of the greatest interest without being regimented or intimidated by equipment or personnel.

In our institution we are now underway with the development of a piece of land for what we have come to call a play environment--no slides, no swings, no teeter-totters, not even a surplus fighter plane, but rather unusual pieces which combine many things in one piece, such as a 10 x 10 x 15 foot play sculpture which in one unit provides for crawling, climbing, sliding, and exploring the use of sand and water, but which has an appearance of intrigue and invitation. We are finding that some children view it initially with some foreboding while others approach with hoots of excitement. Nearby are sturdy electrical poles sunk deep into the ground with protrusions above the ground of different heights with mental bars connecting. The appearance and possibilities are wide open--a fort, a mountain, a maze. The point is we can as much utilize play and play situations to discover a child's styles, his strengths, his weaknesses, concept for self, his understanding of size scale, and what they imply as we do some of our other better known techniques if we will not allow the environment or our perceptions to prevent it.

There are a number of other examples that I could mention or question under the broad umbrella of underachievement and achievement perceptions, but let me move on to the second broad area of my concern--namely, the family. Of fundamental concern to me is the fact that in over 2,200 colleges and universities in this country little teaching is taking place in the area of the family, even less research, and only a minute amount of cross cultural family research which would serve to give us perspective into issues and areas which are typical, atypical, pathological, or signs of strengths relatively independent of cultural setting. Much of what is done in the area of family life teaching is stereotypic and, while not meaning to be damning, is of an agriculture extension format more appripriate to another era.

As our efforts to provide programs of excellence for young children have become more difficult and have been increasingly demanding in comprehensiveness, we have turned in more and more on ourselves, asking questions of training, enrichment, staffing, special services, and community alliances, and have increasingly been pushed away from a close and meaningful involvement with family. As this relates to middle to upper income families this is an operational deficiency which renders the effort of less than maximum benefit to the children. As it relates to low income or minority children it raises fundamental questions of relevance, worth, and benefit to children.

To the degree that we do not understand living styles, family organization, and family disorganization, and are not in the process of becoming more knowledgeable, we will be planning and implementing programs for many young children which are ineffective, wasteful, and may in some cases be laying a base for new forms of cynicism and hostility toward institutions which purport to help.

In working with low income or minority populations we do not have the base or model backups which we rightly assume are a contributing force in working with middle to upper income children. Kagen has written of this in a December 1968 article in Saturday Review. Briefly the point is that the use of intellectual functioning as a tool to command respect, to provide for acquisition of material things, and as a general ingredient in better controlling one's destiny, is not a strong backup to program efforts for young, low income children in spite of what may be said by the parents because the children view the reality of the family living circumstances and the educational attainment of the parents as having more weight in an opposite direction.

In another sphere, we have been carrying forward research at Merrill-Palmer on the occupational aspiration and expectation levels of low income parents for their children. A first impression reaction to the expectation or aspiration responses on occupations would have it appear that (a) low income parents are not in many respects too different from middle income parents who hope their children will be doctors, lawyers, dentists; and (b) these parents are unrealistic to the point of fantasy because they are unable to be specific as to how the child will move from where he is in academic achievement to the goal mentioned or the financial route by which it might be reached. Upon closer examination the ultimate answer to the surface incongruity is more in the direction of neighborhood role models which are either at the advanced professional training level--doctor, dentist, lawyer--or at the other end of the contimuum--the sanitation worker or manual laborer. There is a nearly total lack of exposure to the possibilities in between.

Quite clearly, extensive and quality efforts with young children will not have high payoff until the gaps and detractions in reenforcing role models are attended to with as much staff time and talent as that which is directed to the children.

In a somewhat related context I will mention that a demonstration project involving severely and dramatically distrubed young children underway for some 4 years at Merrill-Palmer has as its base assumption that the breakthrough point may be in the form of an extensive and intensive commitment to the entire family circumstance of the child's living situation, and that short of this, pursuit of more conventional treatment models involving near exclusive attention to the child and unraveling or repairing his illness will result in continuing expenditures of large sums of money and staff time with questionable long term gain.

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MENTAL RETARDATION

ACADEMIC SKILLS WITH THE TRAINABLE MENTALLY RETARDED

by

Alan Hofmeister

The position adopted by Heber (1965) in restricting academic learning to between ages 6 and 14 years is by no means universal. McDowall (1964) feels that the trainable retarded person is capable of further learning until he is at least 25 to 30 years of age and states that it is "essential to provide facilities for teaching suitable trainees up to that age or later. This includes training in social subjects and reading, writing and arithmetic (p. 100)."

There were two major reasons for development of the academic program described herein. First, we are concerned with implications of the program in the development of self help skills, vocational skills, and leisure time activities. Associated with this was the need to develop communication skills. Although communication skills could be practices in the workshop, it was extermely difficult to do any teaching amid the bustle and noise.

Second, we were concerned with determining what could be learned by this population. It may, at first, appear that this should be a secondary goal, that is, that goals in terms of appropriate subject matter should be determined first and then the levels of functioning in these selected areas should be investigated. However, it must be realized that any selection of educational goals is based on a presupposed level of functioning (or else university degrees would head the list of educational goals for the trainable). It can be seen, then, that research related to levels of functioning is a necessary complement to research concerned with the statement of educational goals.

Method

There appear to be two ways one can approach the teaching of academic skills with the trainable. One way is to look at the present level of skill and develop as much transfer as possible to self help and vocational activities. Another approach would be to develop the academic skills until a plateau is reached or the costs of raising the level is prohibitive related to improvement being made, and then stress transfer. These two approaches represent ends of a continuum. It is the latter approach which best represents the method adopted in this study.

The majority of the data shown here was collected during the first 33 weeks of the program which consisted of 18 weeks of treatment and testing and a 15 week discontinuation period at the end of which subjects were again tested to determine learning retained. Areas of functioning investigated included reading, writing, counting, arithmetic processes, and time telling. An emphasis was placed on individualized instruction and the majority of the material was programed. A massive amount of data has been collected and some effective materials and methods developed. It would not be possible to present all the findings in the time available. There are two areas that I would like to report on: the predictive value of certain variables in relation to success in a reading program and the effect of incentives on different types of programs.

Subjects

Table 1 shows the composition of the subject population in terms of chronological age, mental age, IQ, reading grade level, and language age. The subjects participated in the academic program for approximately one hour a day.

TABLE 1

Composition of Subject Population

	Teenagers (CA range 12 - 16 years)	Adults (CA range 17 - 35 years)	Total
Number of Subjects			
Males	6	6	12
Females	5	5	10
Total	11	11	22
Mental Age (Stanford-Binet)			
Mean	5.4	5.6	5.5
Range	4.2-7.3	4.5-7.1	4.2-7.2
IQ (Stanford-Binet)			
Mean	40.3	32.4	36.3
Range	26-47	25-41	25-47
Reading Age (WRAT)			
Mean	1.1	1.6	1.4
Range	KG 0.2-3.8	KG 0.1-3.8	KG 0.1-3.8
Language Age (ITPA)			
Mean	4.9	5.2	5.1
Range	3.6-6.8	4.1-6.8	3.6-6.8

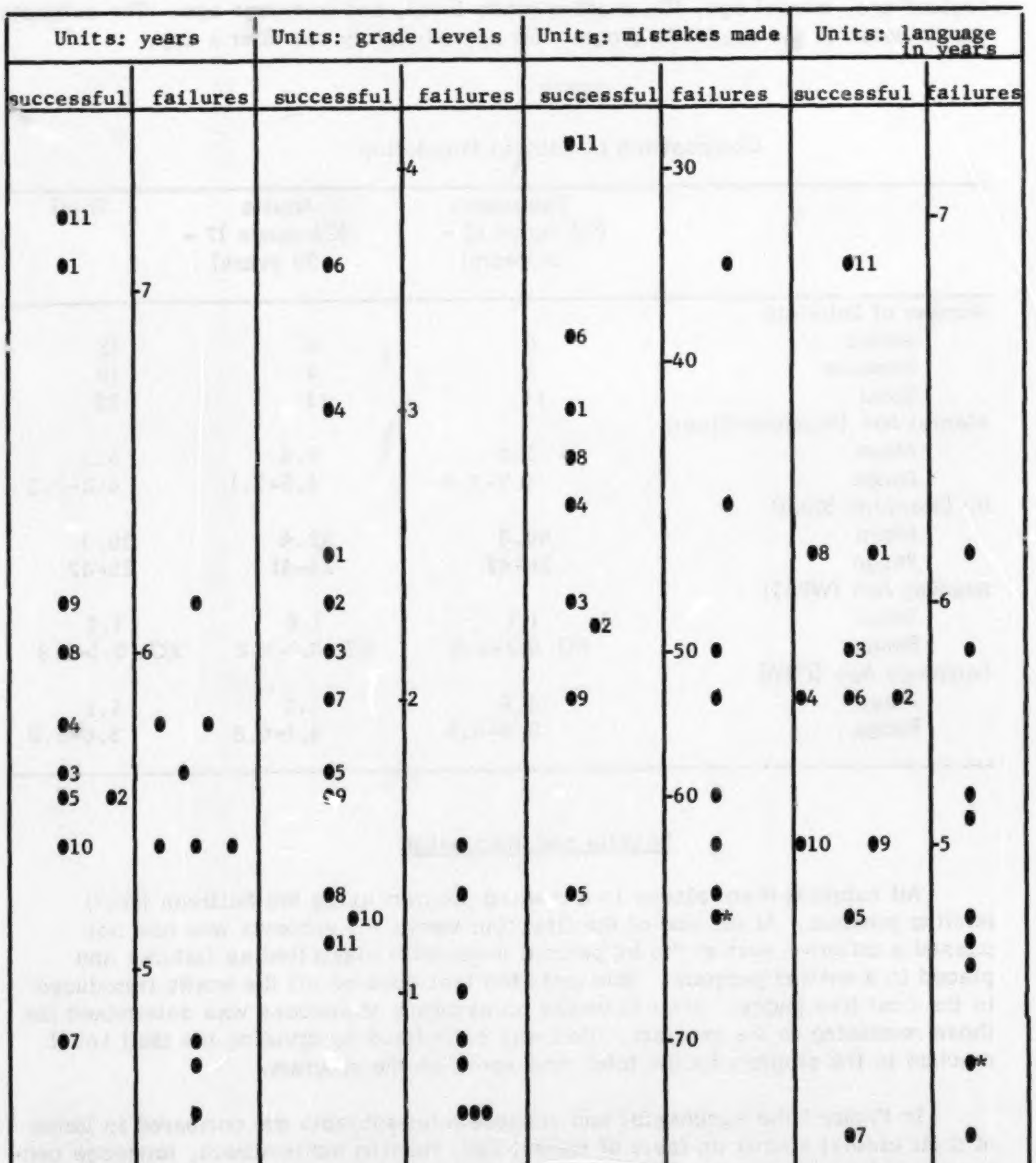
Results and discussion

All subjects were placed in a reading program using the Sullivan (1967) reading program. At the end of the first four weeks all subjects who had not passed a criterion test at the 80 percent level were classified as failures and placed in a writing program. This criterion test covered all the words introduced in the first five pages. After 15 weeks an estimate of success was determined for those remaining in the program. This was calculated by dividing the final level reached in the program by the total time spent on the program.

In Figure 1 the successful and unsuccessful subjects are compared in terms of their pretest scores on tests of mental age, reading achievement, language concepts, and language age. It can be seen that the pretest score in reading achievement was the only practical predictor of success in the selected reading program. All the successful subjects had reading grade levels of 1.2 or above while only two of the failures were above this level and one of these joined the program two weeks late. The other failure was a girl with a negative approach to the total program at the center. The discriminating item on the Wide Range Achievement Test which was responsible for this cut off point at the 1.2 grade level was recognition of letters of the alphabet.

These findings would support the approach adopted by Gagne when he stated that he would not look at many of the well known learning principles like reinforcement and distribution of practice but rather at "the technique of task analysis...

FIG. 1. Predictive Value of Variables.



Note: Figure 1 shows the successful and unsuccessful subjects on the reading program compared in terms of their pretest scores on the Stanford-Binet, the Wide Range Achievement Test, the Basic Concept Inventory, and the Illinois Test of Psycholinguistic Ability. A ranking is shown for the successful = subjects indicating the final level reached in the reading program. Rank order correlations between pretest scores and final levels reached are listed for variable.

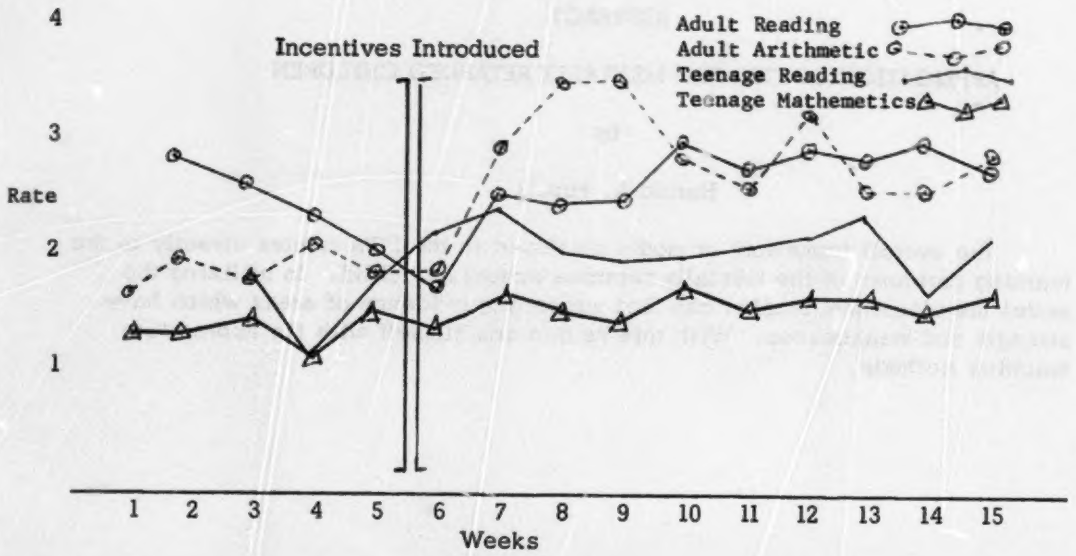
*This subject entered the program 2 weeks late.

and the sequencing of learning to find those ideas of greatest usefullness in the design of effective training (1967)."

At the end of the first month of the program an incentive system was introduced. The subjects were given marks for pages completed and items scored correct on progressive criterion tests which were given at regular intervals in the reading (Sullivan, 1967) and arithmetic (Sullivan, 1965) programs. The marks were placed on cards which were used as currency and could be traded for candy, plastic toys, or cash. This incentive system was very similar to that described by Hewett (1968).

In figure 2 the rate of page completion is graphed for the teenage and adult groups on the arithmetic and reading programs. The graph points are mean weekly work rates. It can be seen that, in general, the use of the incentives reaulted in an increase in work rate which then dropped and plateaued out to a level which was still above that of the preincentive work rate. The teenagers using the arithmetic program were the least effected by the use of incentives. This group was also least successful and the majority of the group experienced consistent failure with this program.

FIGURE 2 Effect of Incentives.



Note: Figure 2 shows the effect of the introduction of incentives. The rate is expressed in pages of work completed per minute. The graph points represent mean weekly rates.

Conclusions

The findings of this study suggest that variables such as mental age and language age which are often thought of as psychological correlates of reading ability are comparatively ineffective as predictors of reading achievement with the group observed in this study. The results also suggest that it might be more profitable to look at task oriented variables which are concerned with determining the position of the individual in the learning sequence.

The results also suggest that the use of incentives can produce marked changes in the work rates but to achieve full effectiveness the inventives must be paired with appropriate instructional material.

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ABSTRACT

APPLICATION OF ITPA FOR MENTALLY RETARDED CHILDREN

by

Harold A. Rupert

The overall framework or model employed in the ITPA relates directly to the learning problems of the mentally retarded school age child. In utilizing the model the classroom teacher can find supporting evidence of areas which have strength and weaknesses. With this he can arm himself with the appropriate teaching methods.

Representational Level The meaningful use of symbols	Reception (input)(decoding)	Auditory	1. Can he hear and understand the spoken word?
		Visual	2. Can the child look and see?
	Association (organizing)	Auditory	3. Can the child hear, associate and say by verbal analogies? Listen and say.
		Visual	4. Can the child see, associate, and indicate related symbols? See and do--See and point.
	Expression (output)(encoding)	Verbal	5. Can the child show and tell about something?
		Manual	6. Can the child act out a picture?
Automatic Level The child's ability to handle nonsymbolic tasks	Closure (Synthesis)	Grammatic	7. Does the child use good speech habits?
		Visual	8. Can the child identify hidden objects in pictures? Can the child see fast for rapid reading?
	Sequential Memory	Auditory	9. Can the child remember a sequence of oral directions? Can the child remember a sequence of phonemes which is phonics?
		Visual	10. Can the child reproduce a sequence of symbols? Spelling.
	Supplementary Tests	Auditory Closure	11. Can the child fill in the missing sounds in words? Fills in when listening.
		Sound Blending	12. Can the child, when given aprts of words, say the word? Independent attack on new words. Letter sound associations.

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ABSTRACT

APPROACHES TO LANGUAGE TRAINING FOR THE EDUCABLE RETARDED CHILD--OR HOW TO TALK WITH CHILDREN

by

Courtney B. Cazden

In some research a few years ago with two 3 year old children in the Negro community in Boston (Cazden, 1965), I contrasted two methods of tutorial language treatment: grammatical expansions versus semantic extensions. In the first treatment, if a child said "Boy car" about his toys, the adult would answer, "Yes, the boy's in the car." She simply expanded his utterance to a full grammatical sentence. In the second treatment, she might say "Where is he going to ride to?" Here the adult extended the meaning of the child's utterance to a related idea. Contrary to my expectations, I found that the second treatment was the more effective, probably at least in part because the greater variety of ideas and grammatical forms in the extensions provide good food for child language growth.

Shirley Moore at the University of Minnesota did a comparable study (personal communication). She asked teachers in a St. Paul day care center to teach with contrasting language styles. One group was taught with what she calls elaborated language, after Basil Bernstein; one group was taught with restricted lanuage. She found that the children taught in a more elaborated language spoke in a more elaborated language. In both the Cazden and Moore studies, the same teachers taught both groups. Only the language styles differed.

For teachers of retarded children, it may be especially difficult to use a language of variety and elaboration. The label of retarded attached to children may depress their level of language behavior. And if certain children are unresponsive, adults are apt to turn elsewhere for conversational partners. After all, adults respond to reinforcement too. This is one of the interpretations of the Parsons Project with retarded children in Kansas some years ago and it is also one interpretation of some of the failures to achieve significant language gains from mixing disadvantaged children with advantaged children in preschool programs and slow learners with superior learners in Elizabeth Drew's study of heterogeneous and homogeneous ninth grade English classes (Schiefelbusch, 1967).

If talk to children is important, and if talk that helps to extend their focus of attention to related concepts is important, what are especially fruitful directions for such extensions? Four can be suggested:

1. Be accurate and precuse in your own use of language. See McAfee's article in 1967 Young Children.

2. Talk about the world shared with the children--present, past, and future. Here referents are clear and statements can be verified.

3. Help children connect the perceptually present world to the relationships that are only conceivable in thought. She articles on M. Blank's tutorial program for suggestions on last two points, in Child Development 1968 and 1969.

THE BEHAVIOR CHARACTERISTICS OF EDUCABLE RETARDED SCHOOL CHILDREN IN SOCIAL INTERACTION WITH THEIR NORMAL PEERS

by

Muriel W. Pumphrey and Edward N. Peters

It has become a commonplace maxim in special education circles to insist that a primary goal of classroom activity is to prepare handicapped children to take part in the adult life of the total community. Most emphasis in the literature has stressed the economic role anticipated that present pupils eventually can fill. Yet as studies of work adjustment continue to show that personality and social adeptness are usually crucial factors in success, more and more importance is being attached to teaching ways of achieving individual satisfactions, peer acceptance, interest in hobbies, and participation in public affairs. Curricula are being planned to enhance social interactive skills and to maximize ability to perceive the expectations of a social situation. The effectiveness of these programs is often hard to judge.

Without waiting to find out the level of their eventual adult social adjustment ment, the EMR project has afforded an opportunity to see what concurrent use retarded children can make of the social abilities that teachers and parents are teaching. The deficits and assets retarded children exhibit when confronted with the same social demands that children from regular school classes are meeting provide cues for areas where reinforcement and new exposures may be indicated.

Subjects Under Study

Seventy educable retarded children never before members of the agency joined groups at the Jewish Community Centers (JCCA) of St. Louis from 1965 through 1968. A pretest group of 12 was followed by three experimental cohorts totalling 58. The children all had been diagnosed in the clinical services of the Special School District of St. Louis County as educable retarded and were currently attending special classes. In this state this meant they must have had an intelligence quotient from 48 to 78. There were 46males and 24 females ranging in chronological age from 6 years,7 months to 17 years, 11 months with a mean of 10 years, 2 months. They came from a wide variety of socioeconomic backgrounds with some at the poverty level to some high among the social elite. There were 59 Caucasian and 11 Negro children.

As a first exposure to their normal peers, 34 were registered in day camps, 9 in resident camp, 11 in social clubs, 8 in hobby classes, 4 in physical education, 2 in the game room, and 2 in sports leagues.

Method

This study aimed to answer one fundamental question: To what extent can educable retarded children participate in on going leisure time activities with normal children? It was therefore necessary that there be a minimum amount of special structuring of the agency to accommodate EMR's as they applied and became members. Also there could only be a minimum amount of intervention on the part of the research staff to ease each child's adjustment in groups of his normal peers. As far as possible EMR families had to be handled in the same way that all new members are when they become acquainted with the program.

These restrictions posed many problems in research design and implementation. Children and parents were permitted to select from the large array of leisure time pursuits that is always available. It was often difficult to arrange for direct observation without distorting the natural give and take of interaction within small groups in small spaces. Much pretesting was required to devise and perfect common bases for measuring social performance in such different group situations as a Cub Scout Pack, a bowling league, a guitar class, and a resident camp. Group leaders had to be relied upon for much of the reporting of the day to day episodes and personal achievements or failures which comprise informal social encounters.

Because ecch group made unique demands depending on characteristics of the activity, leader, and members, a normal child in each group was randomly selected on which data identical with that concerning the EMR member were collected for comparison.

The level of social participation of EMR and normal members was assessed by use of several different devices. On the last day of each camp session or group meeting each leader was asked to rank members in the order of what he considered their relative social adjustment during the whole period the group was together. This provided an impressionistic evaluation over time.

A modified form of critical incident technique was used to get brief profiles of specific occurrences while they were fresh and to see to what extent EMR's were a part of their group's "big moments." After every camp day or club session leaders were asked to describe the single happening which had given them the most satisfaction and the one which had bothered them most. They indicated where the EMR and so called normal members were when the happening took place--out of the group entirely, watching, with the group that participated but not very active, very much a part, or instigator.

Another measure to determine the typical intensity and types of behaviors exhibited by EMR's compared to that of other members was a rating form on group participation. It consisted of 34 items which described the observable behaviors of an individual child. Each leader was instructed to check the response which described how frequently a specific behavior was observed or to select a response which best described the member's most frequent way of behaving in a given situation. For example, to the question "Does this member require frequent and/or continuing reminders of procedures and/or rules?" the leader could select from, "always, usually, sometimes, seldom, or never." When asked to indicate the best statement to describe a member's most frequent way of contributing to what the group would be doing, the choices were, "physically wanders off, contributes suggestions which are irrelevant, physically present but makes no contribution, contributes some relevant suggestions, takes leadership in suggesting the ideas that are adopted."

A first step in the use of the group participation forms was to have them filled out on 223 members from 119 groups of normal children to secure a wide baseline describing the range of characteristic group behavior of the agency's usual constituency. Forms were then filled out near the beginning and near the end of the period each group was operating for each EMR and his normal control. A similar form was filled out by the child's special school teacher. The teacher also described a selected group of children on the school's job readiness rating form (Kidd, 1967).

During two summers the staff directly observed EMR's and their controls in camp groups. Finally, parents and the children were interviewed soon after groups disbanded to see how the experience had seemed to them--what had been difficult and what enjoyable. One of the indicators of whether or not interaction with normal peers was perceived as desirable from the children's point of view was the proportion of subjects who reregistered for subsequent activities.

Results

Social adjustment ranking. Camp records offer the best opportunity for direct comparisons of EMR behavior with that of regular members because more EMR's selected camp than any other single program; the demands are more nearly uniform across groups than in other programs; and a variety of types of activities occur during the period members are interacting. Out of a total of 110 adjustment forms from camp on 56 EMR's, in 23 instances or 21 percent, the EMR was above the median of the group. In 34 or 31.9 percent he was lowest in the group. In 76 or 69 percent of the instances at least one normal was rated below an EMR.

In general it is clear thet EMR's tended to be perceived in the lower half but not as the poorest adjusted of all members. About two-thirds were well within the adjustment range of the usual camp population.

Group participation scores. Responses with repsect to the behaviors of the random sample of 223 normal children in both summer and winter activities were factor analyzed. Three quite independent aspects of behavior were extracted which explained 87 percent of the common variance among the items on the form. These three closely clustered kinds of social behaviors thus identified were aggressive acting out, evidence of a feeling of belonging and comfort, and behavior directed toward the leader. The first factor measured the frequency of aggressive action toward peers and leader of bragging,boasting, bullying, dominating others, disruptive efforts, and attention seeking. The second factor included the degree of involvement in activities, withdrawing in response to threats, peer acceptance, and poise in new or strange situations. The third factor included items which showed how much interaction with the leader was taking place. Scales were developed to measure each of these three factors using mutually exclusive items and weighting each item by multiple regressson. A high level of internal reliability was attained (.77 for aggressive acting out and leader orientedness and .69 for belongingness and comfort in accordance with the Kuder-Richardson Formula 20).

The normal children selected for intensive study for each group in which there was an EMR were then scored. There was no significant difference in these scores and those of the large sample, indicating that the controls' behavior was typical of usual social performance in this setting.

EMR's were then compared to their controls. There was no significant difference in their scores on the aggressive acting out scale or on the leader orientedness scale. Apparently EMR's are no more apt to exhibit these types of behavior than are any other children. This should not be interpreted to mean that aggressive and dependent tendencies had no effect on the success of the EMR in the group. Children excessively showing aggression ranked low in social adjustment. Rather, it appears to mean that this type of dysfunctional behavior occurs with equal frequency across intelligence ratings. Similarly children who were excessively dependent on the leader, whether EMR's or controls, did not get along as well in their groups.

There was a significant difference in the performance of EMR's and their controls with respect to belongingness and comfort and that scale appears to be the best measure of how well a particular child integrated in his group. While on the average EMR's were significantly lower than their controls, many EMR's were rated higher than the median score of all children in the agency; some were lower than any normal child.

Ratings of EMR's on single items on the group participation form in contrast to scores on the constellations of factors were compared with those of their controls in the same groups by means of the Wilcoxon Matched-Pairs Signed--Ranks test. Differences from normals were significant at least at the .05 level in the following ways:

1. Lower on contributing to determining what the group would be doing.
2. Participating less in major activities.
3. Chosen later when groups chose up sides.
4. Needing more support from leaders.
5. Adapting less easily to new situations.
6. More easily frightened.
7. Less verbal in response to suggestions.
8. Bragging and boasting less.
9. Needing more frequent reminders to take care of physical needs.
10. Reacting oftener to derogatory remarks by ignoring critic.
11. Less frequently defending their own behavior.

One of the major differences appears to be that while EMR's are no more or less inclined to be aggressive and act out than normal members, they act out less by verbal response.

On 23 EMR's group participation forms were also collected from their teachers. Ratings of teachers as to how each EMR compared to others in his school class differed from how the JCCA perceived him among his normal peers in an informal setting in these behaviors:

1. The subjects needed less (rather than more) frequent reminders than their schoolmates to take care of physical needs ($p < 01$).
2. They were less (rather than more) inclined to become alarmed or frightened ($p < 01$).
3. They were apt to be chosen earlier (rather than later) when the group chose sides ($p < 01$).

No differences between teacher and leader ratings of the EMR's behavior were shown on the aggressive acting out or leader oriented scales. However, scores on the belongingness and comfort scale were markedly higher in the school setting ($p < 02$ on t test for correlated means). That a child would feel somewhat more comfortable and at home in a class composed of persons with similar potential with whom he has interacted over an extended period of time than he would for the first time in a strange setting with unfamiliar peers seems highly logical. It gives some justification for concluding that the scale may be a genuinely valid measure of how much a member is a part of a social group.

Teacher ratings of individual children correlated highly significantly with leader ratings on the aggressive acting out scale (.74). Those EMR's who acted out in the classroom tended to behave in the same way in recreation activities with normal peers. The low correlation of individual scores on the belongingness and comfort scale in the two settings ($r = .18$) indicated that a child who seemed at ease in the classroom was not necessarily a child who would adapt easily in informal integrated activities outside of school. Apparently the aggressive acting out scale measures a personality trait which varies little from situation to situation. In contrast, the dimension of behavior measured by the belongingness and comfort scale picks up the adult's perception of a child's response to a specific setting. The scale therefore seems to be highly sensitive to varying levels of ability to adapt to the demands of social encounters in the world outside the classroom.

It is interesting to note the relationship between the belongingness and comfort and the aggressive acting out scales in the two quite different settings--one quite structured and the other much more shifting in demands. The more aggressive acting out in the classroom the less belongingness and comfort. Thus, the EMR who tends to be aggressively acting out does not get along socially in the classrooom interaction as well as an EMR who does not tend to act out. This fact certainly is not news to the classroom teacher. What may be noteworthy is that although an EMR is also rated as tending to act out in the recreation setting, that personality trait is not as strongly related to how much he appears to be a part of the integrated group. Indeed, there seemed to be evidence that a certain amount of standing up for himself verbally (and perhaps also physically) enhanced his level of belonging and getting along with his normal peers.

Significant incidents. Incidents recorded for the first two cohorts of subjects showed that the mean levels of EMR involvement in negative incidents compared to that of the normal controls during their first placement was not significantly different. Normals were significantly more involved in the positive incidents (p .05, two tailed t test for correlated means). The degree of involvement of EMR's in negative incidents was correlated (.62) with the aggressive acting out scale. When the EMR's were involved in negative incidents it appears to have been because of aggressive tendencies.

Registration after first placement. In so far as registration for subsequent group experience with normal children could be interpreted as an indication of satisfaction on the part of both parent and child, it is interesting to note that 52 of the 70 elected at least one additional activity while some had as many as 15 placements. It should be noted that the children who began in 1968 had only one opportunity to reregister. The parents of three subjects who moved away asked for suggestions of agencies who offered integrated recreational opportunities so that their children could continue social contacts with normal peer groups.

Relation to intelligence level. There was no correlation between scores on the belongingness and comfort scale, our best measure of social ability in interaction with peers, and intelligence quotients, as measured in half standard deviation steps on either the Weschler or Stanford-Binet Scales. Although on the whole EMR's did not apnear as comfortable as the normal children, among themselves level of IQ does not seem to indicate social potential.

Observations. Using an instrument developed for the summer of 1968, every EMR and a normal child in his group in day and resident camps was observed twice by research staff members. They were rated with respect to involvement in the activity of the moment, their apparent pleasure, and their understanding of the activity. Analysis showed the EMR's as being as involved as the normal children and as evidencing more pleasure. They did not understand the activities as well as the normal children.

Conclusions

The experience of Jewish Centers with integrating these 70 educable retarded children in on-going groups of normal children indicates that most EMR's can adapt in an informal leisure time setting. Two-thirds were within the behavior range exhibited by normal children. Their behavior as a whole was no more aggressive or focused on adults than was that of other children in their setting, but such behavior when it occurred probably interfered somewhat with their achieving a feeling of being a part of the group and comfortable in the situation. The social demands of the classroom and recreation situations are different so that comfort in the classroom will not necessarily be duplicated in the leisure time group. One area where they seemed to be especially weak was in knowing how to interact with peers in determining what the group would do. They need help in learning how to make choices among possibilities for use of their leisure time. They tended not to respons to suggestions of their peers and in crucial decisions appealed to the adult for direction. Possibly this might have been the result of classroom warnings not always to heed peer instructions, which are understandable admonitions in a setting where good judgment is sometimes lacking among their contemporaries.

Since EMR's were no more inclined to be involved in episodes which caused leaders concern than were other members, but less involved in satisfaction giving events, perhaps it must be acceptdd that a social goal for an EMR is to become a good follower. While they were following, they seemed to enjoy the process. Personal support should probably be available to help them better understand the purpose and rules of what is happening. The study has demonstrated that within the educable range of intelligence the level of potential social skills which can be utilized in peer associations does not depend on IQ level.

If they are to be a real part of the total life of their communities as adults, EMR's probably should have early practice in adjusting to situations which are not continuously stable at all times. Uneasiness at change of activity--even such inevitable events as sudden rainstorms--was much more upsetting to them than to normal children. This is one type of behavior in which individual improvement over time was often noted.

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DEVELOPING A SYSTEMATIC APPROACH TO THE PROBLEMS OF EDUCATING ATYPICAL CHILDREN

by

Jack M. Regal

The intention of this presentation is to suggest a prototype for new strategies of intervention with atypical children. The major departure that is proposed that differentiates it from most intervention approaches is the goal of discovering interventions that will have a uniquely beneficial effect on the atypical.

The definition of a unique intervention takes on more meaning when considered in relation to other terms. As a visual aide, examine the generalized schematic and accompanying definitions that have been distributed. The schematic suggests a broad scheme for the research prototype being proposed.

In considering terminology a hypothetical intervention has been undertaken with a group of normal and atypical children. The pre-post representation assumes some gains with all four groups involved.

The terms concerning the generalized schematic are employed to avoid some of the confusion that frequently accompanies reports about an experimental group making gains.

Definitions for Generalized Schematic

1. Power--The power of an intervening force may be determined by quantifying the difference between a control and an experimental group. In the generalized schematic the intervention appears to have been powerful with both the normals and the atypicals.

2. Stratification--An intervention will be considered a stratified power it if is powerful in one group but not others. This definition could readily be expanded to concepts of multiple stratification, where an intervention is successful with several groups but not others. In the generalized schematic the intervention appears to be nonstratified.

3. Uniqueness--An intervention will be considered uniquely powerful if it diminishes the differential between the atypical group and the normal group. In the generalized schematic the intervention appears to be unique.

4. Segregative--An intervention will be considered segregative if it increases the differential between the atypical and normal group. In the generalized schematic the intervention does not appear to be segregative.

Special education is charged with the task of teaching atypical children skills that better enable them to compete with the normal population. Although children may be segregated during a period of special remediation, when their training is completed these children will have to compete in a heterogeneous society. Some of the atypical children may never successfully compete in society, but the special world in which they will have to live is a result of the failure of our total remediational skills.

The general design proposed in this presentation is intended as a framework within which interventions may be tested and evaluated discovering those interventions that will have the most powerful effect on the atypical in assisting them to function more like normals. The problem for special education research is how to minimize the gap between normal and atypical.

One broad category requiring special educational services that has received considerable attention is the disadvantaged. If we consider Romaine Mackie's findings which suggest that 80 percent of the children in EMR classes could also be classified as disadvantaged, then remediating the educational problems related to disadvantagement at an early age may reduce the eventual EMR population.

There is an assortment of unsynthesized facts that confronts those investigating the problem of public school education for the urban Negro. Analysis of these facts relative to school performance, suggests that the Negro is less likely to achieve success than the Caucasian. Some of the other school related facts are:

1. The average score for Negroes on achievement tests is lower than that of Caucasians.
2. Negores receive lower grades in school than Caucasians.
3. Negroes have a lower average IQ than Caucasians.
4. Negroes are less likely to complete secondary school than Caucasians.
5. Negro parents are less likely to be members of school-parent groups than Caucasians.

At the same time that educators have made the previous observations, sociologists and psychologists have been examining the life style of Negroes in order to gain greater awareness of cultural differences. Some of these observations are:

1. There is less emphasis in Negro homes on academic achievement than in Caucasian.
2. There is less verbal interchange between parent and child in Negro homes.
3. Negroes feel that the school curriculum is more alien to their values than do Caucasians.
4. Negro children and parents are unable to communicate adequately with Caucasian teachers.

Although both lists could be readily extended, the above points ahould suffice for illustrative purposes.

Recently, concern has been expressed for the differential in school performance between Negroes and Caucasians (Coleman, 1966). Social scientists have been provided considerable support for the purpose of solving this problem. Perhaps in their haste to provide an eager public with immediate answers, these scientists have frequently abandoned scientific methodology. The most serious common error has been to make the assumption that two events occurring simultaneously proves a cuase and effect relationship. In this case, the difference in life style has been assumed to be the causative agent for differences in school performance. This assumption is made so frequently that investigators may be observed acting as though these assumptions are new facts, and thus they begin their studies on the shakiest of foundations.

Typical intervention studies porpose to direct special programs to compansate for the disadvantages of the Negro ghetto child. He is identified as disadvantaged because he is less likely to succeed in school than the while middle class child, and the causative agent is assumed to be cultural differences. This concept of difference in culture causing school failure has become so deeply ingrained in our current thought that whenever social scientists demonstrate that a cultural difference does exist, the finding is treated as further confirmation of the Negro child's disadvantaged circumstances. The research that yet must be done is that which takes the next step to determine if some identified cultural difference is related to school performance.

When the terms which preceded disadvantaged are examined, such as culturally deprived, and culturally different, the conceptual difficulties become evident. These earlier terms represent the stages in the development of the concept that cultural deviation from the middle class is disadvantageous for learning academic skills. The logic of this thinking is most fragile.

The logic that deviation from a middle class culture is disadvantageous relies on the relationship of two facts: the ghetto Negro life style is different and the Negro is less successful in learning academic skills. However, when other cultural phenomena are examined such as the cultural differences of the Jewish European immigrants of the 1900's and the middle class, although differences in life style were found, the children of these immigrants excelled in academic skills. In this case, being culturally different from the middle class was advantageous. Therefore, determining that a difference in life style exists does not appear to provide sufficient evidence for an assumption that a deviation from the middle class is disadvantageous in learning academic skills. If cultural variables are to be attributed significance in the learning ability of children, then it is incumbent upon the scientists to identify the influential variables and determine how much they contribute to school success.

In carrying out programs related to the previously described assumptions, educators have developed compensatory education activities. These activities include special classes for intensifying reacing, listening, and speaking experiences. There have also been efforts to increase parental involvement in the school by utilization of community relation workers who visit local neighborhoods and individual homes.

Many urban school districts have increased the number of Negro faculty who work within the Negro community. At times teacher aides have been employed to augment the number of Negroes on the faculty and to facilitate improved communication.

In some compensatory education programs the children do make gains. But even where gains have been achieved, little has been learned about the differential between Negro and white performance. Because compensatory efforts have been so typically directed exclusively at Negro children, there is no way of making a comparison to determine if these interventions are reducing the differential with the Caucasians or are simply a response to improved educational techniques. The distinction is most significant.

Although new discoveries for improved education are a useful contribution, these techniques may raise the academic performance of the entire population but not compensate for the differential. By the definitions previously suggested, the interventions were powerful but not unique. The educators who are investigating the problem of the disadvantaged are not proposing to close the gap by depriving the Caucasians of optimum educational opportunities. If improved educational techniques have been discovered, then these new methods should be widely applied so that Caucasians may enjoy the benefits as well as Negroes. If these interventions are differentially favoring the Negroes, then they may be properly applied as compensatory methods.

If the thesis of disadvantage is accepted, then the most logical step is to determine specific cultural differences that contribute to the school performance differential. With the identification of these significant cultural differences, the next step should be to determine their relative strength in effecting school performance. With this knowledge, educators then could begin to implement programs designed to cope with the more powerful deterrents to school success.

ENHANCING THE COGNITIVE DEVELOPMENT OF MENTALLY RETARDED CHILDREN

by

John William Hagen

What does it mean to enhance the cognitive development of the mentally retarded child? One's first response is "to increase IQ, of course." But we now know that to be a naive goal and one which may not even have meaning. Research in the past several years has shown us that the concept of intelligence quotient, or IQ, is too holistic and does not really tell us very much about a child' present abilities or potential. IQ has been and will continue to be an extremely important tool , but it is only one of many factors which must be considered if we are to so structure the child's environment that he has the opportunity to develop his talents to the maximum.

No one will argue that the retarded child functions at a lower level in many settings, including the academic, than a normal child of equivalent chronological age (CA). But just why he functions more poorly is an issue of much debate. Many theories postulate a deficit of some sort in attention, memory, verbal ability, or some other area. These we shall call the cognitive deficit theories. In these theories sometimes the deficit is considered to be constitutional and other times the result of certain deleterious environmental situations. Another less often cited approach emphasizes that the retarded child's behavior is determined to a large degree by motivational and emotional factors which may be unique for him. Dr. Edward Zigler of Yale has been a proponent of this view (1966). None of these views are mutually exclusive, and most likely many factors contribute to the poor performance of the retarded.

The recent increase of research and service programs for the so called culturally deprived or disadvantaged child has made the necessity for increasing our understanding of the reasons for deficient performance even clearer. Many people firmly believe that the majority of the children who test in the educable retarded or low normal range have no physical defect but rather perform at that level because of unfortunate environments. Some advocates of intervention programs argue that if the intervention is not early enough, the child may suffer some sort of permanent cognitive damage; thus the notion of critical periods for intervention has been introduced. Of course, motivational factors are not excluded by the advocates of this view.

We shall now go into some detail concerning those factors which I have found to be particularly useful in attempting to untangle this difficult problem. For the past several years I have collaborated with several others in a research program which has studies the development of selective attention in normal children (Hagan, 1967; Hagan & Sabo, 1967; Maccoby & Hagan, 1965). Selective attention refere to the ability to perceive and process certain factors in one's environment while at the same time to ignore others. By employing a simple memory task which involved the children looking at series of pictures it was possible to measure both task-relevant and task-irrelevant or incidental learning. The general finding has been that older children perform considerably better than younger, and at about age twelve there is a marked improvement in this ability to attend to certain aspects of a task and at the same time to ignore others.

The research of Zeaman and House (1963), a research team at the University of Connecticut, has indicated that institutionalized retarded persons at MA levels of 50 and below, have an attention deficit. When compared to MA matched normal children, the mentally retarded have been found to be deficient in the ability to attend to the specific cues in a learning task. Once they do attend to the relevant cues, they are able to learn the task as rapidly as the normal children. Thus I decided to extend my selective attention task to children in the retarded range (Hagan & Huntsman, 1968). Two CA and two IQ levels were tested. Thus, nine year olds and twelve year olds, of mean IQ levels of 50 and 80 were included. Their performance was compared to normal children (mean IQ approximately 100) who were matched on MA with the retarded children. All the retarded children were living at home and attended special education classes. It was found that the retarded children, when compared to the MA matched normal children, did not show any selective attention deficit. Of course, when compared to normal children of the same CA they did show a deficit, but nevertheless, no support was found for the Zeaman and House position that the mentally retarded's deficit is especially pronounced in the area of ability to select out relevant cues from irrelevant ones.

Since Zeaman and House have tested institutionalized retarded persons, we decided to also test an institutional population. The study was repeated, using two groups of CA 9 and 12, both of IQ 80. This time the attention deficit did appear. The retarded institutionalized children, when compared to the noninstitutionalized retarded children, performed worse. At this point you might ask, why did I test only the IQ 80 group? Indeed, one might argue that the study should have been done with institutionalized children at the same IQ level with which Zeaman and House have worked. Certainly that would maximize the chance of a replication of their result. But I am especially interested in children in the so called educable range and have been engaged in research and training programs with the children in this institution. Next you might ask, why were these children in an institution? It is of course true that an IQ of 80 is not usually sufficient cause for institutionalization. These children in addition had behavior problems in school. They came from the inner city area of Detroit. My colleagues and I who have come to know them well are convinced that they are not qualitatively different from normal IQ children. Since an attentional deficit was found, which was not found in children of an equivalent IQ level living at home, it is reasonable to conclude that the cause for the deficit might well be found through a careful investigation of environmental factors in the institution. We do not know what factors of an institutional environment are deleterious for the development of attention abilities. The hypothesis cannot be ruled out that children that we institutionalized are different even before institutionalization on certain factors from those who are not. Current research is being planned to check on this possibility. The classroom in the institution may also be very different from the special classroom of the handicapped child who lives at home. The present research, in addition to the body of past research on institutional effects, suggests that further study into specific environmental factors that affect cognitive growth in the mentally handicapped child is needed. The research instruments that measure attention ability as well as other abilities should be used to evaluate differences in retarded children in various educational environments to determine if differential abilities are being fostered or hindered by these environments.

To conclude this presentation, I shall discuss briefly the behaviorist's approach to retardation and attempt to relate it to possible remedial approaches in attention deficit. The behaviorist says that the usual diagnostic tools do not provide the teacher of the retarded child with useful information; in fact, this information may bias the teacher so that he will treat the child as though he is incapable without giving him a chance to prove himself. For example, the label brain damage suggests certain deficits which may only apply to a few children who have been so labeled, yet all may be treated as though they possess the deficit. When a child fails at a task, we should question the teaching approach rather than assume that the child is deficient, the behaviorist says.

A study by McCleave illustrates the point. The subject was a boy who was blind because of congenital cataracts until corrective surgery was performed at age four. After the boy was taught social skills through behavior modification, he was placed in a school situation and progressed well. However, he had a particular problem with reading. McCleave began to work with him at this point, and she soon discovered that he could not discriminate the mirror image letters, i.e., "p" and "q"; and "b" and "d." He also often wrote his letters backwards. She undertook a training procedure which started at the simplest level: the letter "c" was used, and it was presented both forward and backward. She presented five c's at a time and one of them was backward. He was instructed to choose the different (or backward) one and was rewarded each time he was correct. After many trials, though, his performance was still at chance level. Thus simple reinforcement training did not work. Next, the backward letter was also made larger than the others, and with this extra cue he easily mastered the task. Then the cue was reduced, and the letter was made smaller and smaller until it was the same size as the others. His performance immediately returned to chance level. At this point some might say that a deficit had been diagnosed and an appropriate label would be applied to him. But McCleave's mentor was a behaviorist and she knew that she must not give up. Next, the letter "o" was used on place of the backward "c"; so the child saw four c's and on "o" on each trial. He quickly learned to choose the "o" and earn his reward. Now a tiny gap appeared in the "o" to make it resemble a backward "c". He still performed correctly. Then the gap was made larger, and finally the letter was identical to the original backward "c." His performance continued to be perfect; thus he now could discriminate the letter. She then tested him on the original reversed letters which he could not discriminate and he easily distinguished all of them. He reading training program then continued.

A cognitively oriented psychologist is impressed by the results of such studies. I interpret these results as follows. The boy was unable to discriminate the letters because he did not attend to the relevant cue, spatial orientation. The first cue provided, letter size, did not help him because it was in fact irrelevant to the real problem. The second cue focused attention on the crucial aspect of the letter that provides the information to discriminate appropriately. Obviously the boy was not deficient in ability to discriminate letters but had not learned to attend to the appropriate cues. Had the boy failed to generalize from the "c's" to the other letter reversals, McCleave would no doubt have tried other inventive techniques to obtain the desired performance.

From this study one can see how letter discrimination training programs could be developed for children with this deficit. The specific technique here should not be expected to apply to all children with the deficit; but the approach should prove useful: Determine the nature of the deficit as specifically as possible, design intervention techniques aimed directly at the deficit, and if at first you do not succeed, try again. I do not wish to deny that organic factors may play a role in attention deficit, but even if they do, the deficit may well still be subject to remediation. Even normal young children might profit from training in attending to relevant ones. The educator and the designer of curriculum for all children should perhaps pay more attention to attention.

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IMPLICATIONS OF PANEL PRESENTATIONS: HABILITATION RESOURCES FOR THE RETARDED

by

Jerry D. Chaffin

With just a little imagination it is possible to envision future programs where the teacher has no classroom at all, but has simply engineered the activities of the pupils within the community environment, utilizing a variety of community situations and personnel.

While this notion of more extensive use of community resources appears to have merit for the education of the retarded teenager, it seems reasonable to consider previous research finding which are relevant to this concept. Research related to learning theory as well as followup studies dealing with the effectiveness of training programs for the retarded seem pertinent to the present issue. With regard to the first, learning theory, a number of things are evident. First, learning probably best occurs when it is taught within a practical context and transfer of learning to other situations is a function of how similar the actual learning experience is to the expected transfer situation. Also, mentally retarded youngsters do not seem to transfer learning easily nor are they particularly adept at remembering what they learn. From this view point then, the experience based program of using community resources in teaching functional skills would seem to have obvious advantages.

Followup studies are not so supportive. In fact, few such studies have been done which deal with a question as specific as the effect of different types of training experiences on later adjustment. One such study by Howe (1968) examined the relative effectiveness of on campus versus off campus experiences and its effect on later adjustment of the retarded. As Howe put it,

> The assumption made is that a graduate whose program

> combined practical on the job training, off-campus, with related and reinforcing curricula in the classroom will be better prepared to enter the work-world and succeed than will one whose program was limited to the school setting. Presumably the person with such training and experience will make a better community adjustment as an adult (p. 323).

Thirty-six subjects in Howe's experiment had off campus work experience while thirty-two had on campus work experience only. All subjects had been out of school from two to four years. Individual personal interviews were conducted with each of the 68 subjects. The result of this followup revealed no significant differences between the two groups when compared on later employability.

Spellman (1969) attempted to examine the effects of training from a broader point of view. He considered the overall effectiveness of ten demonstration programs which emphasized the school-community cooperation. Spellman noted that the employability of the graduates of the programs ranged from 47 to 86 percent. He was cautious in drawing conclusions regarding these projects since they had been conducted in different localities and many important variables such as specific training procedures, number and status of dropouts, and socioeconomic conditions were often not clearly explained. In a few cases even the IQ scores of the groups were not clearly specified. With only one exception the projects reviewed by Spellman were federally supported cooperative demonstration or research and demonstration projects, and seemed to be more concerned with demonstrating to the local schools that cooperative school-community work programs were administratively feasible rather than researching the merits of their programs in regard to student outcomes. Spellman concluded that this emphasis on demonstration may, "account for the fact that these reports did not provide impressive evidence to support the work-study arrangements (p. 36)."

The original reference to learning theory would seem to provide a sound rationale for the continued and expanded use of community resources in the development of training programs for the retarded. The latter followup studies on the other hand do not show these methods as being particularly effective. In view of this evidence it is not necessary to question the concept of using community resources, but it is necessary to question our effectiveness in implementing the programs. Thus, the second implication, evidenced in these papers, is the increased awareness of the need for adding precision to present training programs.

One means for adding precision to present programing was clearly spelled out by Bolanovich in his paper which focused on the need for better integration of industrial training facilities as a habilitation resource. The precision built into this idea is clear in his discussion of the special advantages of industrial facilities. In this regard he emphasized: (a) the reality of the training situation, (b) access of the client to modern equipment and methods, (c) availability of training specialists, (d) access to relevant training media, materials, and equipment, and (e) the presence of job performance standards. Dr. Bolanovich was also careful to point out that (a) all of the requisites for precise training may not be available in every industry, and (b) the simple availability of these requisite conditions does not assure they will be utilized to the best advantage of the client. Finally, Dr. Bolanovich outlined step by step procedures for utilizing industry as a training facility and thus achieving better integration of school and industrial training programs.

There are many other ways in which precision can and needs to be added to our present programs. Schanberger has pointed out there are a number of imposing problems which stand in the way of developing precise training programs. She has mentioned fragmentation of the curriculum and emphasized the lack of a continuous program for the child through his entire school career. Availability of appropriate classrooms and trained personnel were also mentioned and she has pointed out that scope, sequence, and behaviorally oriented goals and content either do not exist in our usual curricular framework or are fragmented to such an extent that the curriculum is left indecisive.

I would like to mention one particular bias of mine, which, if resolved, I believe would add considerable precision to at least some high school work-study programs. This bias refers to the tendency of all of us to overrate our accomplishments. It seems that we often judge the merits of our program by the accomplishments of a few students. For example in my own experience there is "Mary, who has a civil service job" and "Frank, who runs his own gas station" or "Mark, who made more on his first job after graduation than I did my first year teaching." There is really nothing wrong with being proud of the success of these clients, as long as I don't believe I caused the success. We did help Mary get the job, but we didn't develop the skills she uses to perform the job. We did agree that it was okay for Frank's father to buy him a service station, though he probably would have bought it anyway. Mark was from a very disadvantaged environment and had worked all his life. We just exempted him from jumping through some of the "hoops" we called work readiness.

At least one-half and probably two-thirds of clients in high school work-study programs will become employed regardless of the experiences we provide. Evidence to support this statement is available from a number of followup studies. The Kansas Vocational Rehabilitation and Special Education Project (Chaffin, Haring, & Smith, 1967) was a federally sponsored program designed to demonstrate the effectiveness of the cooperative efforts of school and rehabilitation personnel in the habilitation of educable mentally retarded adolescents. One means for evaluating the effectiveness of this program was to select a comparison populstion from other schools where cooperative services did not exist. The project was in operation for three years. On followup, two months after the end of the project, 95 percent of the graduates were found employed, but 65 percent of the comparison population which did not receive cooperative services were also found employed. Also, 65 percent of the dropouts from the Kanaas Project were employed. Though 95 percent of the graduates of the program were employed, this project did not cause 95 percent to be employed since 65 percent would apparently have been employed anyway.

Howe's study, which was mentioned earlier, is also of some significance here. In his discussion of the implications of his findings he indicates that one aspect of the results of his study may have bearing on the type of student who may most need off campus placement. He further stated that,

> The typical practice is to provide off-campus placement for students who seem to have the best chance of being successful. This practice usually stems from a combination of motivating and rewarding students to do well in their on-campus work experience and classroom work and of developing good public relations in the community. Work coordinators often place the better students first in order to develop confidence in the program by the business leaders in the community. An implication from the results of this study could be that the multiply handicapped and those of lower potential are the ones who most need placement and supervision in order to improve

> their job-holding potential at the termination of their school careers (p. 326).

The need for precision can also be carried to the placement aspect of our programs. Rehabilitation counselors get just as much credit by placing a student as a busboy at the "greasy sppon" restaurant as they do in placing one as a busboy in a large industry--yet the pay for one is likely to be twice or even three times as great as the other, while job demands are often no different at all.

To summarize my bias: It is important for us as teachers or vocational rehabilitation personnel to recognize that employability already exists for most clients entering EMH classss at the high school level. Our job is not just to allow them to become employable, but to enhance their employability through more precise programing of their vocational program. We may utilize vocational education, manpower development, or an industrial training program. However, any program we choose should be implemented with some degree of precision inherrent in the content of his presentation. Finally, while it is important that we extend the employment skills of the better students, it is equally important to develop programs for the clients in our program who are more vocationally limited. I am not referring to the trainable retarded, but to the lower 1/3 of the present EMH class (the ones you teachers are constantly "bugging" the counselor to place out on a job). If these youngsters are to be brought up to a productive level of outside employment, their program will require even greater precision than that of the better students. Though this group may require some sheltered training and a careful sequence of on campus work experience, it is this group that, as Howe indicated, may benefit the most from off campus work experiences.

One last implication--not implied from the papers, but implied from the individuals who presented them and many other similarly employed individuals that I am acquainted with--is that people working to habilitate retarded teenagers are the most dedicated, the most creative, and the most inexhaustible individuals I know. I suppose though that you're not this way by choice but by necessity--since every week you have clients that get fired, run away, set fires, or steal something. Their parents expect too much, expect too little, meddle in school affiars, or are unconcerned. The clients are frequently involved in accidents at intersections, accidents at work and accidents in cars.

It is a struggle to keep such a program in operation, yet the panel or me has implied that if we are to be successful in our efforts to create more effective training programs for the retarded, we must develop additional community resources and add a high degree of precision in this mileu where there are variables we haven't even identified yet.

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JUNIOR ACHIEVEMENT AND SPECIAL EDUCATION

by

Richard D. Howard

Junior Achievement (JA) is an organization established and largely funded by the businessmen of America. The purpose is to acquaint the youth of American with basic business practices and hopefully perpetuate the free enterprise system.

This is done by students of high schools coming together in a central location, forming interest groups, organizing a company, selling stock, manufacturing a product and selling same, paying wages and expenses, such as rent, equipment rental, utilities, corporate taxes, dividends, and distribution of profits, and liquidation of stock.

A local business provides sponsorship which includes adult counselors--usually a chief counselor and specialists in the field of bookkeeping and finance, sales and production.

Special education is designed to assist the exceptional pupil to enter society and function independently as nearly as possible. Since this often entails work-study or vocational training and since these pupils will be going into business and industry, what better arrangement could we ask for than our own company?

The Oakwood School District is wealthy, small, and geared for college preparation, with 95 percent of their students graduating from college. With about 450 high school pupils they do not have enough handicapped students to have special classes, so they put all students with learning disabilities in one group and label it adjusted curriculum with IQ's ranging from 67 to 118.

There were 14 in this category, but only 10 sophomores, juniors, and seniors. Freshmen are not permitted to join JA; however, I was assured this regulation would be waived so that my successor could have the benefit of his freshmen. Our company consisted of 10--8 boys and 2 girls. The Dayton Daily News provided us with three counselors.

JA agreed to let us set up our company on the school premises and conduct all business there. We met once a week in social studies class as a board of directors. We scheduled the work during pupils' study halls--in some instances a pupil could get in three hours a day or 9 to 15 hours a week, in some instances work was taken home to be done, or sometimes pupils remained after school or came back at 7:00 p.m.

After organizing and selling 92 shares of stock we started manufacturing Christmas candles. Because we were small, and meeting on school premises we had no access to machinery for manufacturing. We went to another JA company which was manufacturing clip boards. Our officers negotiated a contract--which was another first in JA. The other group manufactured the clip boards and sold them to us disassembled. We fabricated and sold them.

Because of our limited number of workers we were sorely lacking in good salesmanship. This fact caused us to look in still another direction--service. We secured a contract from our sponsor for collating fourteen recipe cards, placing them in envelopes, and bundling them in packs of ten. This project allowed a greater distribution of earnings since income was not related to sales ability.

Our last and most lucrative venture was salvaging copper. A local motor manufacturing firm had several hundred spools of fine copper wire. The national copper strike was at the peak and copper prices were soaring. We removed the copper from the spools and returned it at the rate of 5, 10, and 15¢ a spool depending on the size.

At the close of the year we were negotiating with the sister JA company for a merger. This was vetoed by the parent organization. The JA organization assured us that as of this school year we could continue through the summer months instead of liquidating as every JA company does in May.

It was a thrill to see students take offices and perform duties that previously had been only for the more able. Our secretary did an excellent job. Our treasurer was very inadequate in math but through the services of the sponsor we secured a retired comptroller of the National Cash Register Company, who in turn practically tutored our treasurer in bookkeeping. This was quite involved since we had checks to write, loans to negotiate, dividends to pay, etc.

Our production man had to keep records of stock, disbursements of merchandise to individual members, check off stock sold, returned, and outstanding.

Our assistant treasurer had to keep account of hours worked, time checked in and out, compute the wages, and certify it to the treasurer. The vice president in charge of sales arranged a sales contest that moved some hard to sell items. These specific learning opportunities plus the many interactions of the students, faculty, and community have convinced me that JA offers one of the richest untapped resources I've encountered.

Other benefits derived were management meetings for student executives, sales meetings for student sales personnel, safety meetings for production and safety supervisors, socials which include beauty pageant, dances, and banquets, and exposure to the public, both as an individual and as a member of one of the most respected organizations in the nation.

Since ours was a unique company, operating in a different manner and at a different place, we secured publicity which was most valuable to our pupils.

Two of the most valuable side attractions to JA is the open door to field trips to almost every business in the community and the ease of getting resource people in the classroom. Almost every executive in the city of Dayton and Montgomery County was at our disposal.

Visible evidence of behavior changes, classroom demeanor, dress, personal grooming, manners, and general maturity was evidenced by the faculty and administration. Parents and community were most enthusiastic in their praise of the project.

A third and perhaps very important followup is the use of the JA name when entering the job market. Almost every personnel manager in the city gives preferential treatment to JA participants, both in part time and permanent jobs.

Specific occupationally oriented facets of the program are possible variety of work situations; every handicapping condition could be provided for by alternating jobs, types of work, items manufactured, and service projects; there could be blind JA companies, companies composed of the orthopedically handicapped, and combinations of all these and more.

Additional possibilities are interdisciplinary projects involving the other vocational programs such as distributive education, cooperative office education, work training programs for the slow learners, OWE, and others. It would also be quite feasible to have students from more than one high school meet in a central location and participate in JA companies for the handicapped.

I think the greatest thing that can be said for this project is that the participants were no longer ashamed to be identified as adjusted curriculum students.

MODIFYING CHILD REARING PRACTICES THROUGH GROUP MEETINGS OF MOTHERS OF RETARDED INFANTS

by

Maurice H. Fouracre

Special class teachers have often been aware of the discrepancy between their mentally retarded pupils' level of functioning and their mental ages as determined by one of the acceptable tests of mental ability. The difference between the functioning level and mental age may be due to the criteria used to determine success or failure on the test items or it may be due to the cultural and/or psychosocial deprivation in the home.

It was felt that a school staff could make its greatest contribution to young children if it selected the latter of the two possible reasons, namely to attempt to positively change or modify child rearing practices of a group of mothers, whose retarded children would be entering a special class in the future.

Support for such a project was found in the research conducted by Kirk, wherein he showed that:

1. Children from psychosocial deprived homes can accelerate their rate of mental and social growth if placed in foster homes and given preschool education.
2. Children who remain in their psychosocially deprived homes but are given preschool education tend to increase in rate of development, but not to the extent of those placed in foster homes and offered preschool education, and
3. Children who remain in their psychosocial disadvantaged homes without preschool experience but who attend school after the age of six tend either to retain their rate of growth or to drop in rate of growth (Kirk, 1965).

The St. John's staff were most interested in working with mothers whose retarded children were younger than those studied by Kirk, and the children were to remain at home under the mother's direct supervision.

Watson's (1961) report that psychologists believe that 50 percent of one's total mentality is reached by the age of five further underlined the importance of "preparing" the retarded child for nursery school.

Schaefer reported a three year study of Washington, D.C. children residing in lower socioeconomic conditions in an urban community. The object of this study was to increase the intellectual functioning level through home tutoring beginning when the children were approximately 15 months of age and continuing until three years of age. The results of this project confirmed the importance of verbal development of the child. This development is highly related to the amount of intellectual stimulation, particularly verbal stimulation, that the child receives.

Nowhere in the report was it indicated that these children were retarded, however in the St. John's study, all of the children were medically diagnosed as being retarded, probably moderately retarded, with many of the known clinical anomalies. Further, the St. John's Center project was designed to have the mothers meet at the center and participate in group sessions, not individual conferences.

Rosenzweig, Bennett, Krech, and Diamond (1968) in a report from the animal laboratories at the University of California have imlications for the education of infant retarded children. A study using rats reinforces the idea that early stimulation of an animal causes it to respond to stimuli and to become actively involved with its environment. The stimulation produces a subject morphologically superior and better adapted to learning than animals placed in unstimulating environments ments. The California research team further concludes that

> in the rearing and education of our young, we can now see that the environment we provide may enhance or retard brain growth--and perhaps intelligence. However, one cannot liken the culturally deprived person to the impoverished laboratory rat. Except for those people who are deaf and blind, or seriously handicapped, a vacuum of experiences is rare. Rather, the experience of our young is random. We have done only little to discover how a human's education should be programmed and placed to maximize the potential of each individual (Rosenzweig, et al., 1968).

The early education of moderately mentally retarded children, as for all children, should begin in the home. Unfortunately, the birth of a retarded child often produces an unnatural and frequently abnormal type of family situation--many times one of complete rejection. Ordinarily, the birth of a child is the fulfillment of a dream of having a normal, healthy child to carry on one's heritage. To the mother of a newborn defective child this dream becomes a nightmare, the euphoria is shattered, and the long time planning comes to a sudden halt. The mother is now confronted with immediate problems for which she has had no training or experience, nor did she anticipate that an abnormal child would be born into the family. In the case where the diagnosis of mental retardation is delayed several months or longer, the mother may begin to question her own ability as a parent, then a family crisis may arise when the pediatrician confirms what the mother has secretly suspected for some time. The feelings of guilt begin to mount and the shame attached to not having provided better early child care may weigh heavily.

The realization that retardation may be the reason for the child's slow development can cause the mother to expect less of the houngster and thereby begin to overprotect her child and expect little from him. The father's degree of acceptance or rejection of the child identified months after birth may be quite different from the acceptance or rejection of the child identified soon after birth. In the postnatal period the retarded child may have developed a personality and the father's relation to his son or daughter may have begun to blossom until the diagnosis was made. Possibly, poor interpersonal relationships between the parents may begin to appear, aggravated by the presence of the defective child; the father absents himself from the home as the child is not an adequate sample of the progeny he thought should have been produced.

The home environment or the environment for teaching and learning may become seriously impaired. Attitudes of the parents toward the defective, although they may appear to be wholesome on the surface, can be colored internally by such thoughts as, "How will the child's grandparents accept this condition?" "What will the neighbors think?" "What will my child look like when he grows up?" "How will he fit into our present way of life?" "Will he ever be able to get a job?", to list but a few.

These attitudes are likely to affect child rearing practices unless the primary physician or the counselor is alert to the need for emphasizing certain positive aspects. There is research evidence which indicates that when teachers have low expectations for their students, the latter will conform to these lower expectations in behavior and performance. This evidence lends weight to the need for positively oriented classroom teachers. The same conclusion can apply to parents who expect too little and consequently do things for their child which he could learn to do if allowed to imitate and practice.

The purpose of a parent education program is to assist a child develop mentally to function as close to his mental, physical, social and emotional potential as possible. If a good training program can be started and continued by the parents at home. The child will be more capable when he enters the nursery school, more capable in the special class and undoubtedly more successful in the future when he enters the competitive work world, the sheltered workshop, or the residential institution.

The project began in October 1966 with two mothers and their two moderately retarded children. Since that time 26 mothers have been enrolled. It has become necessary to limit the number of participants because of the lack of staff time. This project has been undertaken as an extracurricular activity by the staff and at no expense to the mothers except the cost of transportation from home to the center and return. All of the children at the time of their first visit were under three years of age. One mother attended her first meeting when her daughter was ten days old. Eight children who have participated in the program are now enrolled in nursery school programs.

The monthly meetings were scheduled for the mothers to meet with a person or persons knowledgable in the aress of child growth and development and parent counseling. While the mothers met to discuss specific problems related to the care and training of their children, members of the staff including the psychologist, the speech and language developmentalists, and the nursery school teaching staff observed and cared for the children, making records of changes in behavior, growth, and development each month.

The last half hour of each session the mothers had an opportunity to observe their own children in peer relationship situations and to discuss with staff members progress and recommendations. Frequently the mothers were taken to the nursery building to observe children somewhat older than their own who were participating in a full day nursery education program. It was believed that such an observation benefitted mothers, as they could observe other moderately retarded children functioning quite capably in a group situation, exhibiting acceptable social characteristics which were commensurate with the individual child's mental ability. The visits helped the mothers to project their own child's future behavior.

The primary goal of the parent education project was to modify the child rearing practices of the group of mothers; however, as the meeting progressed it became apparent that other objectives had to be incorporated. Behavior modification in parent-child relationships remained the prime objective, with teaching the child to learn new skills running a close second. It was often necessary to give the mothers specific suggestions and professional support as to their own ability to teach new skills to their child through play activities, games, and materials commonly found in the home.

A third objective of the program was to develop the problem solving approach through group interaction. It was found that the group functioned best when there was group interaction directed toward solving their own problems. The group leader did not attempt to approach the group in a dogmatic fashion, but served as a catalyst, summarizing and concluding when the discussion about a problem seemed to be exhausted.

The format of the meetings was flexible and specific attempts were made to meet the needs of all members. New members were given child development charts which were helpful in assessing the child's present functioning level and what immediate goals could be established for each individual. The importance of keeping an ongoing log, a careful record of growth and development, was stressed and found to be of value.

Discussions wereprimarily centered on child development (physical, mental, social, and emotional growth); language and speech development; activities of daily living; self help skills (particularly feeding and toilet training); child management or discipline; sibling relationships; coping with families, relatives, and neighbors; involving the husband in appropriate child rearing practices; relationship with professionals (primarily medical); and the need for parental recreation, rest (vacations), and outside interests.

Sessions were sometimes structured so that the mothers became interested, for example, in language development or a discussion of psychological evaluations, then a professional in the designated field presented the topic and led the question and answer period.

It has been very difficult to measure attitude changes and positive changes in child rearing, as no formal testing has been attempted. Each September members are asked to indicate on paper what they hope to get out of these session and again in June as attempteis made to see if these goals have been accomplished.

In analyzing these expectations and whether or not they have been reached, it is evident that many hopes are quite unrealistic. A large percentage sought answers to specific questions and problems which could not be given in a group situation. Several continued to feel that their youngster would outgrow his retardation; others had hopes that the child would be able to take his rightful place in the competitive work world. All members indicated that they (a) understood their children (normal as well as retarded) better; (b) they (the mothers) could relate better with neighbors and relatives; (c) they were more aware of positive things to do for their retarded child and (d) they had gained from the experience. Many mothers indicated that their positive change in child handling had produced a desirable change in the behavior of their retarded child as well as in his normal brothers and sisters. Some mothers reported that their husbands appeared to be more understanding of the retarded child's limitations and were beginning to accept the child.

Certain questions were raised frequently enough to be considered seriously. The most common ones relate to the medical profession.

Many parents have been very frank to admit that the physician handled the problem badly and caused mental anguish which could have been tactfully avoided. Parents who have good intelligence and great respect for the medical profession have asked such questions as: "Why can't the pediatrician or family doctor recognize the child's condition sooner?" "Why does he say 'wait and see'?" "Why do they recommend institutionalization before I become attached to the child?" "I became attached to the child when I first felt life." "All parents have to face separation from their child, why can't this be done at a later date when all involved are emotionally more settled?" "Why aren't physicians aware and knowledgable about this type of child and the need for early services?' "Why does the physician refer the case to a fellow physician who is no more knowledgable about the condition than he?" Although these questions which have come from parents are directed to physicians, some parents have indicated that nurses have given misinformation which has been equally devastating. There is no intent here to imply that the medical profession has been the only profession criticized. Education and psychology are not blameless and members of those professions have been justifiably criticized for their poor handling of parents and their retarded child.

Other questions clustered around home experiences which we tend to take for granted. The problems related to babysitting such as: "How do I find a competent sitter?" "Should I have a teenager or an adult?" "How do I tell her about my child--how much?" "How do I train her?" Questions concern telling neighbors, relatives, and friends about the retarded child. Many questions are about play--sibling and/or peer relationships, equipment, and especially toys--what kind, when to purchase them, and where.

In conclusion, the St. John's Center parent counseling program has proven to be rewarding, not only to the parents involved, but also as a learning experience for the junior members of the staff. Obviously, there is a continuing need for some organization to sponsor a parent counseling program prior to the child's entrance in a nursery program or a public day school special class. The earlier it starts, the greater the help to the child, his parents, and, last of all, his special class teachers.

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NEW DIRECTIONS FOR TEACHING CHILDREN WITH RETARDED DEVELOPMENT

by

Julia S. Molloy

The Calf-Path

One day, through the primeval wood,
A calf walked home, as good calves should;
But made a trail all bent askew,
A crooked trail as all calves do.

Since then two hundred years have fled,
And, I infer, the calf is dead.
But still he left behind his trail,
And thereby hangs my moral tale.

The trail was taken up next day
By a lone dog that passed that way;
And then a wise bell-wether sheep
Pursued the trail o'er vale and steep,
And drew the flock behind him, too,
As good bell-wethers always do.

And from that day, o'er woods and glade,
Through those old woods a path was made;
And many men wound in and out,
And dodged, and turned, and bent about
And uttered words of righteous wrath
Because 'twas such a crooked path.

But still they followed - do not laugh -
The first migrations of that calf,
And through this winding wood-way stalked,
Because he wobbled when he walked.

This forest path became a lane,
That bent, and turned, and turned again;
This crooked lane became a road,
Where many a poor horse with his load
Toiled on beneath the burning sun,
And traveled some three miles in one.
And thus a century and a half
They trod the footsteps of that calf.

The years passed on in swiftness fleet,
The road became a village street;
And this, before men were aware,
A city's crowded thoroughfare;
And soon the central street was this
Of a renowned metropolis;
And men two centuries and a half
Trod in the footsteps of that calf.

Each day a hundred thousand rout
Followed the zigzag calf about;

And o'er his crooked journey went
The traffic of a continent.
A hundred thousand men were led
By one calf near three centuries dead.
They followed still his crooked way,
And lost one hundred years a day;
For thus such reverence is lent
To well-established precedent.

A moral lesson this might teach,
Were I ordained and called to preach;
For men are prone to go it blind
Along the calf-paths of the mind,
And work away from sun to sun
to do what other men have done.

They follow in the beaten track,
And out and in, and forth and back,
And still their devious course pursue,
To keep the path that others do.

But how the wise old wood-gods laugh,
Who saw the first primeval calf
Ah! many things this tale might teach -
But I am not ordained to preach.

(via Norman Ellis)

Sam Walter Foss (1858-1911)

This conference shows signs of active interest in getting off that calf path; innovative areas are charted; controversial sorties are very healthy; no longer can we play dead to the daring investigators.

We have come a long way since the magnificent start given to us by Itard and Sequin, since ASHA actually advocated not attempting to work with the child with an IQ below 70, and since textbooks said (and some still do) that Mongoloid children cannot learn to talk. Somewhere from this magnificant start we got lost on a calf-path.

My introduction to Mongoloid children was classically textbook plus a visit to an institution so I too believed they could not talk. Upon completion of my masters work at Northwestern University I took a temporary job at a newly established school (1950) for retarded children. Being fresh from the Northwestern clinics I began my work by evaluating the communicating status of each child--and I met Pete. Pete was a 6 year old Mongoloid, son of a truck farmer, strong and healthy from a large loving family. I was alone in the classroom which was actually a field house in a park, with no recorder, no one to handle the auditory stimulation material, just Pete and myself and some idealism. I held Pete in my lap in an effort to channel him and had a toy bus in my left hand and a pencil in my right hand to transcribe phonetically his expected utterances. I pushed the bus saying, "bus-Pete, say bus"; he said "bu--," which I eagerly entered into the record. Thinking I might have heard a trace of an s sound I tried again, "bus-Pete, say bus." He turned his face toward me and said loud and clear, "I ted dat, yuh tupid jackass!" Thus I learned that Mongoloids could talk.

Some people conceded that Mongoloids could talk but that they labeled and said words only, employed no syntax and never could project in time. Then I met Marylou, a 7 year old brightly smiling charmer, the oldest of a loving family of six The day before we were to go to the Shrine Circus she entered her classroom one happy morning and greeted her teacher with, "We can hardly wait until tomowwow, can we Miss DeWose." Syntax, projection in time, and surely no paucity of ideas. But, that's the way it was....

> The traditional democratic invitation to each individual to achieve the best that is in him requires that we provide each youngster with the particular kind of education which will benefit him. This is the only sense in which equality of opportunity can mean anything. The good society is not one that ignores individual differences but one that deals with them wisely and humanely.
>
> ...we must expect each student to strive for excellence in terms of the kind of excellence that is within his reach ...we must recognize that there may be excellence or shoddiness in every line of human endeavor. We must learn to honor excellence (indeed to demand it) in every socially accepted human activity, however humble the activity, and to scorn shoddiness, however exalted the activity...The society that scorns excellence in plumbing because plumbing is a humble activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water. John W. Gardner

Therefore we must pursue excellence in working with all children, the humble, impoverished, culturally, or intellectually deprived as well as the exalted genius.

We are concerned here with children with retarded development, using Bijou's (1966) definition quoted:

> A retarded individual is one who has a limited repertory of behavior shaped by events that constitute his history having a limited ability to profit from experience. We therefore must create and manipulate opportunity for experience from which he can profit. This requires effective people and intriguing things.

As we look at new directions for teaching retarded children I'll not take time to review the literature beyond saying that the old literature--Sequin, Descoeudres --gave us some basic material that somehow or other became lost around the turn of the century. We experiences some dark ages of institutionalizing rather than managing, of isolating or segregating rather than preparing a child to meet life realistically. Militant parents in the late 40's rattled the cages in which they found themselves trapped with their children who were being kept away from society rather than being prepared to live in it (by society here I mean any society appropriate and necessary in which a child must be prepared to function). This could be at home, in the community, in competitive society, or in an institution.

Recent literature is bright, daring, encouraging, and inspiring. No longer can we accept the equating of a group labeled "retarded children" as a bonifide sample; there actually is no such entity. If you accept the premise that retardation is a symptom rather than a disease you can readily understand this point. So much research cites using 50 retarded children in one sample and 50 in another matched by sex, age, IQ. If these children are broken down in etiological groups research, of course, becomes very difficult, yet how much validity can we commend to results from such a nebulous containment as a group of "retarded children or retardates?" Today, Down's Syndrome cannot be considered an entity of oneness. Recent research indicates strong possibilities of different disabilities between the mosaic and trisomy Down's Syndrome child.

True, we are still deluged with fragmented research that seldom becomes translated into usefulness in the training and education of our children; however, each journal carries the excitement of the era. Surely it is a new day for our children. Our biggest task lies in the conversion of the trotters of the calf path into thinking in terms of 1969. No longer can we accept the premise of irreversibility. None of us is ready to proclaim that we can make normal children out of children with retarded development, but we can improve their functioning. Colwell's work with behavior shaping with profoundly retarded patients at Pinecrest State School, Louisiana, demonstrates clearly that behavior changes can be made reversing the situation from total dependence and living within one's own filth to a toilet trained, self feeding, self dressing and undressing, and receptive social human being. Communication shaping with this same group is showing results far beyond anticipation.

Today we are very aware of the child who does not learn in a normal way, yet through proper diagnostic procedures--and here I mean diagnostic studies of his learning problem--can develop strength through compensating manipulations or directly through remedial techniques. There are I believe 34 different terms in describing these children--learning disabilities, minimal brain damage, etc. I am inclined to regard children with retarded development as children with learning disabilities in various degrees and patterns. The alternate to this acceptance seems to be the acceptance of the premise of irreversibility and, after my experiences at Pinecrest where I was privileged to participate in the JI project, I am convinced that irreversibility applies to very few children and particularly to very few children attending public school programs.

We cannot deny that some descriptive material must be employed for legal purposes and definitions in the framework of laws, rules and regulations. Actually such definitions are for the convenience of the lawmakers and the taxpayers. The question haunts me, can anyone honestly set a baseline at this time that will predict the ultimate potential of children with retarded development?

Using the American Association on Mental Deficiency's definition we are left with the question of how you measure adaptability. Leland's extensive work at Parsons State School to develop an adaptability scale in all probability will be useful in predicating such behaviors with children in institutions. At the present time it does not seem that this is going to be the instrument that will give us what we need to learn about the adaptability of children living in their homes and attending schools in their own communities.

I would like to present a brief overview of the current status of classes for children with retarded development. The bright new teachers coming along full of bright new ideas and energies to experiment hopefully will bring some changes lo long overdue. As I move around the country working in various places on curriculum development for children labeled as "trainable," one could almost describe the situation as a wild scramble. Many of these must be assembled by a certain date to meet grant requirements. Sitting with the committee assembled by Dr. Margaret Moss of George Washington University, to study and ponder the problem, I saw after 3 days of discussion that no basis existed at that time for planning a curriculum when we do not really know what we are preparing our children for. It is one thing to say what they should do, but it is another thing to say what they do do. This discussion group was assembled as a result of a question raised by Dr. Moss as she was assembling items for their Instructional Materials Center. The question arose concerning what criteria we have for election of material unless we have a criteria for the development of the curriculum which will use these materials. Needless to say many other problems came to the fore during this 3 day conference.

Upon returning from the conference it seemed indicated that we should look back and try to find out how well we really have been doing with the children entrusted to us. We assembled a questionnaire that we sent to every family with whom we had contact since Orchard School opened in 1950.

Summary of data from survey is as follows:

Total questionnaires sent	183
Responses	140
Returned for better address	12
Did not respond	31
Graduated at 21 from Orchard School	20
working in contract shop	9
outside jobs	4
needed at home	2
"works" with father	1
residential placement (parents died)	2
stays at home	2
Excused from school because of behavior	7
Transferred to more appropriate placement	11
Died	9
Parents withdrew	2
(needed at home--mother ill	1
"difficult to cooperate--better off at home")	1
Moved away	22
Transferred to "educable" classes	8
Transferred to normal classes	4

Placed in residential setting by parents	41
because of death in the family	3
counseled to place	4
parents' decision (15 were in early teens)	34
Our 1969 graduating class	3
in contract workshop	1
in child care aide in nursery school	2

These questions come to mind: Are we satisfied? What could we have done better to prepare these children with the lives they are now living? What could we have done differenly that would have possibly precluded some of the institution placements? What can we do now with more information, more research findings, and more willingness on the part of administrators? It becomes obvious from our data that we must devote more time to preparation for institution living or find better ways to prevent institution commitments.

What jobs can our students learn to do with satisfaction and contentment in the sheltered life most of them will lead, or in competitive society for those who can manage their affairs? Child care has been observed as a very satisfactory job in some institutions when it has been wisely managed. After study of some good programs, we started a training program for our teenagers.

Things progressed very comfortably. These young people learned eagerly and were very anxious to please. A reward system was set up, the girls receiving pink smocks and the boys blue jackets, marked Orchard School Child Care Worker. When they completed a course of study, a certain number of practice hours, demonstrated that they could perform the tasks satisfactorily as judged by reports from staff members.

One day I was observing Sandy, a 17 year old girl, on assignment in Child Care, walking a nursery child in the hall toward a therapy room. Suddenly she jerked the child quite roughly. I quickly said, "Be kind Sandy, be gentle." "I be kind, Mrs. --Loy, I be kind." So she went along another few feet and jerked the little one again. This time I said, "Sandy, you said you would be kind."

"I be kind, Mrs. --Loy, I be kind."

By sheer inspiration I asked, "What does kind mean, Sandy?" Her answer was "Well--what kinda ice cream do you want?" So I sought refuge in some graded word lists and learned that kind as an attitude is a 5th or 6th grade comprehensive level word, and Sandy was functioning at a low second grade level. As this was being discussed with our social worker we realized we were imposing words and expecting appropriate behavior responses far beyond realistic possibilities. A search was made of the words we were using and felt necessary for communication in child care work. Kind, gentle, honest, responsible, manage, supervise, example, prompt--all 5th or 6th grade words!

This indicated the need to find a way to enhance this communication gap. A project was designed, titled at first "Attitude Shaping." This has been changed to

Social Behavior Modification. The purpose of this project is the modification of social behavior to augment skills necessary in job training, particularly in child care, through the enhancement of more desirable and adaptable ways of reacting toward themselves, their peers, their teachers, and any nonpeer contacts. Communication is germane to this social interaction.

Discussion groups have been set up consisting of 12 individuals, 7 males, 5 females, between the ages of 14 and 21, all functioning as "trainable" mentally handicapped in attendance at Orchard School for Special Education. Three 45 minute meetings are held each week, one for boys, one for girls, and a third coed.

Specific subjects of the discussion come from weekly reports by staff members who are involved in training child care skills, such as helping younger children in dressing, washing, toileting; directing games and recreational activities; preparing snacks; and bus attendance.

The major emphasis of the program is to prepare each individual as thoroughly as possible to perform a useful service, wherever he may be--in a contract workshop or other work situations, in his home, in the larger community, or in a residential setting.

As the discussions go on a vocabulary evolves to improve communication between student and teacher and others. We can observe appropriate reaction to the sound symbol for the abstract behavior such as "responsible," "set an example".

Role playing, discussion, building an experience dictionary, and social reinforcement are effective. The teachers consistently label and reinforce; when the worker does something gentle, she says, "Fine, that was gentle" or "You supervised the lunch setup very well."

A frequency count is tabulated to ascertain just what words teachers are using in their written reports about chore or job performance. We hope to establish a criteria for verbal demands made by adults.

The design of the project is very interesting and will be reported in detail after another 6 months of data gathering by Marie Forman, ACSW, who conducts the group meetings and counsels the trainees.

The literature contains many surveys of the "graduate" of programs for the educable retarded child. The question which comes to mind is how much use have these surveys been in effecting change in curriculum development? Many great things are going in fragments. We need more catalysts to bring together the fine ideas that too often lie dormant.

If we analyze the success of the "graduates" of the programs for the educable, what kind of a person succeeded? It is generally with Gellman's (1956) studies of job analysis in vocational training, but do we know how to teach our young people to be socially acceptable, to be adaptable, and to have a marketable skill? Many people do but there are not nearly enough expert people in this field. The problem seems to lie in teacher training.

A genuine manpower shortage exists at the university level. Teachers are being trained by instructors who have actually never taught a classroom, who consistently rehash the literature and refuse to grow, refuse to change, and are prone to ridicule those who try to grow or effect changes. This is unfortunately too true. They just cling to that calf path. Many very fine university courses are offered for teacher training, but not nearly enough. The increasing numbers of programs with mandatory legislation gradually spreading across the country cannot be met by adequately trained teachers without some radical changing in current practices. Programs similar to MAT (Master of Arts in Teaching) could help this situation. A good teacher could be assigned to a top flight master teacher and probably learn more of practical teaching arts from that teacher than trhough the lecture rehash system.

If we could adopt Bijou's concept, a functional analysis of retardation, and sharpen our abilities to provide appropriate experiences, it would seem logical to propose a strongly integrated program for our so called educable children. By integrated here I mean integrated in the mainstream of life, starting in the competitive society of a grade school. Where then do we cut the line between those children who will stay in the competitive situation and those who need to be segregated and exposed to every device possible to realize their potential? Here is where we desperately need to study adaptability.

The Vineland surely won't do this and there is some question if Leland's material will. I hope it will. Language measures at the present time only tell us current output, not potential or possibility of success.

The severity of the learning disorder seems to be the predictor; however, the word severity needs scrutiny. It is more the kind of learning disorder the child suffers that controls his behavior that in turn dictates whether or not this child can be contained in a regular classroom. A measured IQ of 90 could be noncontainable while a tractable child with a measured IQ of 60 could manage very well in a classroom.

Can the Illinois Test Psycholinguistic Abilities (ITPA) tell us what we need to know about cognitive potential? Many indications are that it will go a long way in helping us to plan for children with learning disabilities. Now let us look again at the program for integration of a child with a learning disorder, living in the mainstream of a public school. If the homeroom is a slower classroom and team teaching is available, and if tutoring, language therapy, adaptive physical education, group counseling, and diversified education can be made available via team teaching, the child should be able to grow socially and be better prepared to work in competitive society because of long experience in the competitive society of his public school.

At this point I would like to clarify that I am talking about children with retarded development and children with learning disabilities as one and the same thing. It is a matter of degree of disability. I am fully aware that this is heresy to many people but I find I cannot ascribe to the old concept of irreversibility except in those cases where sensory and physical impairments have created an organism so far from neurological intactness that potential is hardly discernible. Who, then, finds the way into a segregated school?

In many places all special education classes (except for the gifted) are in segregated buildings. There is much to be said in favor of this in that the costly therapists and specialists can serve more children. If the segregated school is large enough to allow competitive societies to exist in each level of a building, a strong case can be presented in defense of this arrangement. However, extreme caution should be used to allow each child to have his place in the sun. How many chores are to be done in any one school building? The able trainable child or the nonambulatory cerebral palsied child can easily be squeezed out of opportunities for experience to complete a mission with a genuine feeling of worth whileness. To manage such a situation is a strong challenge to the school administration.

The most effective team teaching can be programed in this segregated school situation particularly if it only houses children with a retarded development (children with learning disabilities which preclude their containment in competitive school situations). The use of aides, ancillary personnel, can result in an all out effort to enhance maximum growth. Social group therapy has long been neglected with our teenagers with retarded development and becomes practical only when the population is large enough to justify the time of a psychiatric social worker. The social worker is an extremely important staff member as she is in a position to nurture parent support, understanding, and interest.

If we are going to attempt to live without labels possibly the school should be without a label. It is extremely gratifying to me that the new school being built for us in Niles Township will be called an Education Center.

If we are to establish curriculum that is based upon what we know we must prepare our children for, we must try to clearly state our goals, we must ask the question, what are we going to try to produce? What is our philosophy to produce it? We need objectives clearly stated, content to reach the objective, and methodology and techniques to get the content across. We must work with the child to prepare him to accept the inroads that must be made upon his disabilities, to be socially intact, and to manage his behavior before we can attempt to get any content across to him. We must help the child to become motorically intact, developing his body image, his control of movements as to what, where, and how he moves. We must strive for sensory intactness, training his receptive and expressive abilities so that he may communicate profitably.

If our goals are clearly stated we will have no problem in evaluating progress. Claus (1968) has modified Mager's (1962) system for application to planning for children with retarded development. Objectives should be stated in the imparative mood and should say that a child does something, with some tool or media, about some content, according to a criteria. If your objective is so stated no subjective guessing is needed in evaluation and it becomes merely a question of does this child do this or doesn't he do it? The child either does or does not do what the objective states as a productive change in behavior. Stating objectives according to this model is very strenuous but very gratifying.

All subject areas can be arranged in sequence of difficulty. The criteria are the level of difficulty. The levels or subobjectives can follow developmental scales against which each individual may compete at his own pace. For example, an objective in one curriculum organization is social adequacy.

Using Claus' formula -

1. Do something: Acquire social adequacy

2. Media or tools: Via structured experience

3. Content: In self care, social adaptability, and work habits

4. Criteria: Function with independence and maturity within the framework of individual limitations

Here is an example of stating the objectives for a definite task. The objective is in this case a part of the objective of social adequacy.

1. Do something: Wash hands

2. With some media: Mixing water, using soap, and towels

3. About some content: To remove all dirt

4. According to a criteria: And end result to be clean and dry, water turned off, and soap clean, placed towel in proper place.

The nursery child can't do all that so objectives must be stated using the same formula for each level and you have a sequence of difficulty. At all costs avoid stating an objective thusly: "to learn how to," "to be able to," and "to understand."

Claus disparages such constructs as "fuzzy, frightful and foggy." These all involve value judgments and can never be measured objectively. (The February 1969 edition of Education and Training of the Mentally Retarded carries an article about teacher education, "An Undergraduate Course in Organization of Programs for the Mentally Retarded" by Florence Christoplos and Peter Valletutti. The students actively practice in the stating of educational objectives according to a formula. This is very heartening.)

Program evaluation is essential if you believe in the worthwhileness of what you are doing. This information can be shared with parents and the community of taxpayers. It challenges us to clearly state our objectives moving toward the realization of the maximum potential of each child as we prepare him for the life he will lead.

At the present time building programs are being planned all over the country. Many of the concepts are magnificent, but unfortunately some of them reflect "let's-get-it-over-with" attitudes. The Council for Exceptional Children (CEC), through their architectural surveys, will have much to offer which is much needed. Unfortunately the building program is not going to allow these ideas to find their way into practicality as it should. There is one basic philosophy for building a facility as an education center--that it should provide space and equipment to do the job that must be done in this segregated school, the job that cannot be done in the integrated schools. There must be a place for social growth, motor growth, and the development of skills for jobs.

I ascribe to the premises of Strauss and Lehtinin (1947) amply supported by Cruikshank (1961) and Bijou (1966) that the environmnet must be bland and as free as possible from distraction for the direct learning situation. There must be a place to be alone, either completely or with the therapist. It must be a happy, stimulating, contented place where effective people and intriguing things can find their way into maximum effectiveness.

What is prescriptive teaching? A physician decides what is wrong and prescribes treatment. How does he decide? He decides via history, an inventory of all events pertinent to case; observation, level of development and behavior; and testing of all kinds. This is also the basis for prescribing the appropriate procedure to remediate what stands in the way of learning.

We can't always remediate to normal functioning, but we can build some strengths anc compensations. Braille is a compensation, lipreading is a compensation, crutches and braces are a compensation.

If a functioning area can lend strength or compensate for a weaker area, success and accompanying reinforcement of the satisfaction that comes with success, any success no matter how small, starts the chain of events that leads to increasing success. Communication is germane to the educative process--to learn one must receive a signal, react, and send a signal.

The Illinois Test Psycholinguistic Abilities (ITPA) is an instrument based upon Osgood's model of the communication process. Kirk and McCarthy (1963) devised tests to measure the functioning in 9 areas that could possibly present a picture of cognitive power via exploration of reception, reaction, or association, and expression. Through such an analysis of strengths and weaknesses in these abilities essential in the learning process, remedial prescriptions could be planned.

Experiences are devised in sequences of difficulty to stimulate a necessary skill such as an appropriate response to a heard signal--auditory decoding (reception), or a seen signal--visual decoding (reception).

Early experiments resulted in a variety of results--some based upon predetermined prejudice, insufficient time, poor interpretation of Kirk's intent, and unfortunately the first edition of the test was clumsy and not conducive to obtaining the best responses from the children.

Some experimenters misused the test by attacking the weak areas like a repair job. Sound pedagogy would indicate that the strengths would yeild success upon wich the motivations could spiral. Hopefully the weak areas could be touched and remediated when the feeling of success is established. Very often compensatory measures must be taken.

Three years ago Dr. Jeanne McCarthy used many of our Orchard School children in her doctoral study. A unique population of 16 children with a diagnosis of Down's Syndrome, between the ages of 2.6 and 9.0, was noted to be in attendance at Orchard School for Special Education. Thirteen of these children were known to the Evaluation Center: within the first 12 months of life their parents had received counseling, had attended group therapy meetings with a psychiatric social worder (ACSW) and parent education workshops, and had been visited at home. Three of these children received no special attention for a variety of reasons until after their sixth birthday. The children meeting the criteria were subjects included in a doctoral dissertation by Dr. McCarthy on patterns of psycholinguistic development of mongoloid and nonmongoloid severely retarded children. Dr. McCarthy's findings indicated that

> Further exploration into patterns of functional strengths and deficits among the various etiological classifications within the severely retarded group also seems quite urgent. The possibility of early definitive diagnosis of mongoloid children, coupled with their wide discrepancies in psycholinguistic development, and their encoding abilities, would suggest this group as a rich source of information for further research.

Two classes were set up in 1966 for a week summer session to explore the feasibility of instituting an experimental program following an educational prescription based upon the implications from Dr. McCarthy's dissertation. The children were examined by a child study group consisting of a psychologist, social worker, the teachers to be involved, the school music therapist, language pathologist, myself the director-principal, and Dr. McCarthy.

These children were all involved in a motor growth project. The project was actually a study of the development and enhancement of the grasp function. This included a carefully structured daily program that started with the establishment of body image.

The British Movement plan was the construct. The establishment of body image was part one of this three level program. The levels establish a working relationship about:

What we move	(body image)
Where we move	(spatial relationships and direction ability)
How we move	(walk, run, etc. fast, slow, start, stop)

These three constructs were used because of excellent sequential programing and the useful evaluation systems. For content, the Orchard School curriculum was used. Kephart's (1964) material supplied many of the activities. Frostig materials and the Peabody Kits were used.

Stimulus-response-reinforcement techniques are standard procedures. The science of linguistics has moved us one step further: first we settled for labeling and social language, now we can demand structure and get it in many more children then we ever dreamed could actually use good syntax.

It is just as easy and more natural to say "a book" rather than "book" and amazingly it is just as easy to answer "I do" to the question in a lotto game rather than settle for some signification response--a nod, a hand, "ah", etc. Tense is difficult involving projecting in time, but can be done. Here again the child's own body experiences the events that demand the proper use of tense as the experience is related. The question, "What is your job today?" then "What did you do?" usually will elicite the use of correct tense.

Programs were composed for each child based upon his assets, with short and long term goals established. A review of the vocabulary of the Illinois Test of Psycholinguistic Abilities (ITPA) will facilitate your understanding of these terms.

The 9 Subtests of the Illinois Test of Psycholinguistic Abilities and their Definitions

1. Auditory Decoding--the ability to comprehend the spoken word. This process is measured by requiring "yes" or "no" answers to such questions as "Do airplanes fly?" or "Do bicycles drink," etc.

2. Visual Decoding--the ability to comprehend pictures and written words. In this subtest, the child is shown a stimulus picture which is then removed. The child is then asked to point to one from among a set of four pictures. The correct answer would be semantically identical but not physically identical to the stimulus picture, i.e., two different chairs.

3. Auditory Vocal Association-- the ability to relate spoken words in a meaningful way. This association process is tested by items of increasing difficulty in an analogies test utilizing a sentence completion technique, i.e., "Father is big, baby is ______." (This is "hear and say.")

4. Visual Motor Association-- the ability to relate meaningful visual symbols. This test is a picture association test. The child is presented with a single

stimulus picture and a set of optional pictures, one of which is associated with the stimulus picture. The child is then asked, "Which one of these goes with this?" The child must choose the one picture from the set of choices which has a conceptual communality with the stimulus picture, i.e., shoe--among others, a sock.

5. Vocal Encoding--expressing ideas in spoken words. Talking. In this test the child is shown a three dimensional object such as a ball and asked, "Tell me all about it." It is scored on the basis of the number of concepts enumerated: size, color, material, shape, usage, etc.

6. Motor Encoding--ability to express ideas in gestures. An object or picture is presented to the child and he is asked, "Show me what we should do with this." The child supplies the appropriate response, such as drinking from a cup or playing a musical instrument. (This is "See and Do.")

77. Auditory Vocal Automatic--automatic language without conscious effort. This is a test of grammar. The child is shown a picture of one hat, then two hats, and the tester says, "Here is a hat. Here are two _____." The child must complete the sentence. The test increases in difficulty by requiring the correct use of increasingly less familiar verbs and nouns.

8. Auditory Vocal Sequential--ability to repeat sequence of symbols previously heard. This is a digit repetition test. These are given at the rate of two per second and the child is allowed two trials with each sequence before the task is failed.

9. Visual Motor Sequential--ability to repeat a sequence of symbols previously seen. Child must duplicate the order of pictures or geometrical designs. These pictures have been presented to the child and then removed.

The new Illinois Test of Psycholinguistic Abilities uses 12 areas and changes decoding to reception and encoding to expression.

BODY AWARENESS AND MOVEMENT: TECHNIQUES AND MATERIALS

by

Phyllis Kamin

Independence is a goal for which most humans strive, independence in caring for one's own physical needs being basic to achieving social and emotional status. This holds true for retarded youngsters as well as those classified as normal or intact. The ability to handle clothing, including the fastenings, is an easily observed and measured activity in terms of a child's degree of independence, for without skill in such management, help is needed in the performance of many activities of daily living. A child that requires help in these most personal tasks will be further traumatized in his psychosocial development as well as in his potential for acceptance in the every day world. Ineffectual behavior in the performance of self care activities by many of the children with retarded development attending Orchard School for Special Education was noted by the staff, and the difficulties seemed to be centered around a lag in grasp abilities.

Ineptness in self care was the catalyst in approaching this study, but as observations were made and data gathered, it became more apparent that these children were notably awkward in gross motor performance and were inept in creative or exploratory tasks. Exploration and manipulation of the environment are most necessary for mental and creative growth and for the establishment of body image.

Therefore, concentrated efforts to train these children in finer manipulative skills would be akin to training and reinforcing what Dr. Kephart calls "splinter skills," a rigid, limited portion of a total motor act, with no generalization or integration into total behavior.

The study revealed that there are a multitude of variables affecting grasp behavior. First, the child's history; second, the inherent characteristics of the manipulanda; and third, the motivational value of an object to the child.

The term child's history refers to all the behaviors that make up a child's past and present repertoire: his chronological age, the mental age, the etiology, hand preference, eye preference, EEG readings, etc. Xrays of the hand and wrist with analysis of bone ossification centers substantiated the hypothesis that physical maturation certainly influences the development of finer manipulative skills. In collecting data on the grasp behavior (partof a child's history is what is he doing and how is he doing it), we recorded observations on performance in the classroom, in the lunchroom, and in the bathroom.

As the literature revealed no studies concerning children with retarded development comparable to Halverson's work with normal infants, we established a working vocabulary for our purposes to describe the grasps employed by the children.

Palmar grasp: There is more palming than use of leverage at the distal metacarpals. Proximal phalanges are flexed and distal phalanges extended or flexed depending on the size of the object. The child approaches material desired with flat hand, fingers extended and slightly spread.

Dagger grasp: The flat hand approach of the infant emerges into a grasp in which manipulandum held in a dagger grasp extend from the ulnar side of the hand in almost a vertical position.

A. All phalanges are flexed around the object, the thumb is flexed over the fingers.

B. The thumb is enclosed by the fist.

C. The thumb is used as leverage or assist.

D. The thumb is extended alongside fingers and is not in play.

Shovel grasp: The manipulandum extends from the radial side and the wrist is radially pronated. The phalanges are in the same position as described in ABCD under dagger grasp.

Scissors grasp: The manipulandum is held by the thumb adducted against the median aspect of the forefinger.

Pincer grasp: Finger thumb opposition; the manipulandum is held between the distal surface tips of the thumb and finger.

Samplings of the Lowenfeld scribbling sequence were taken, which yielded positive substantiation of the close correlation between the level of scribbling and other motor performance. Lowenfeld stated:

> At some point, usually at about two years of age, the child, when given a crayon will start to make marks on the paper. These motions will be uncontrolled in the beginning, and their outcome is lines, which indicate these undirected movements. The first stage of scribbling thus is a disorderly scribbling, bold or dainty in its lines, depending on the personality of the child. The conclusion to be drawn from such scribbling is that at this mental level the child has no control over motor activity. Parents and teachers should therefore regard disorderly scribbling as an indication the child is not yet able to perform tasks that require proper motor coordination such as eating, dressing, sweeping the floor and so forth. A glance at the child's scribbling would be very revealing. As long as the child has not reached a stage of scribbling in which he has established control over his motions, it is both senseless and harmful to teach activities requiring fine motor coordination.

The sequence of motor activity described by Lowenfeld--random scribbling, push-pull stroking, circling, named scribbling and the emergence of schema--was sampled. Correlations of the Lowenfeld levels and self care tasks showed significance in such items as buttoning and zipping, and the level of grasp employed in performing these tasks revealed a high correlation. Success in closing a zipper apparently requires at least a scissors grasp. Our findings indicate that the Lowenfeld sequence could therefore be used as a simple device by teachers in assessing what the child is doing in the way of self care and in setting up successful goals for the child's classroom program.

> Sophisticated motor skills are not a part of infant and toddler behaviors. Thus early motor deficits may be glossed over and more attention paid to the child's assets, particularly if he or she is alert or responsive and generally bright appearing. In fact, during this time potential to develop normally may well exist. But as time passes and the child experiences sensorimotor deprivation essential for the development of motor skills, his level of functioning becomes arrested, distorted and inevitably retarded.
>
> IF, for example, the child never experiences the physical independence of the freely ambulating two year old he cannot help to retain more than a vestige of infantile dependency attitudes and expectations which influence his behaviors, (usually inappropriately), towards others and his environment. Although he may still appear bright, he is unable to exhibit behaviors appropriate to his chronological age. All too often impressions that he 'really know but just can't show his knowledge' are capacities projected on to him by family members and therapists invested in perveiving the child as internally intact. As the child passes into adolescence and young adulthood, his original appearance of brightness, to which

> so many attributes and hopes were attached, retains an incongruous childlike quality and it becomes more difficult to sustain the earlier invested perception 'that he's really okay on the inside.' With increasing awareness of the importance of sensorimotor experiences, it becomes apparent that there is seldom, if eve, a rationale for minimizing early motor deficits. (Perlmutter, 1968).

Essentially this statement was descriptive of the minimally brain damaged child, the perceptually handicapped child. The importance of motor experience is as applicable to the development of any child, whether he be intellectually intact or severely retarded.

Gesell (1945) traces the very beginning of motion in the human organism: "Is any psychic state so attenuated that it is devoid of some bodily tension, some active motor content, or motor derivation?...is not thinking dependent on motor set and postural adjustment and readjustment." (Posture is defined as that position assumed by the body as a whole in order to execute a movement or to maintain an attitude. A movement may be thought of as a change in posture.)

It has been well established that motor development takes precedence over skill development; skills must be learned, and learning is an involved process. Motor learning is the very basis for motor perception, for other perceptual processes, for conceptual functioning. Therefore, in planning and working with children, one must be aware of the physiology of learning as well as the psychology of learning.

All behavior is based on the nervous system. There is a certain chain of events, so to speak, which is basic to any kind of behavior: first, there must be a stimulus, the input to the central nervous system prerequisite to the response, which has both sensory and motor components. This is an extremely simplified version of central nervous system functioning, but keeping this chain in mind can help an educator or therapist direct his attention and efforts towards the best channels for teaching or trying to elicit specific behavior.

It has been well recognized that sensory deprivation results in retarded development, and it is fact that the more sensory input offered, the greater the chances for learning. Therefore, teachers, therapists, and parents are expending considerable time and effort in bombarding their charges with stimuli. The multiple use of sensory stimulation is advocated if the stimuli are controlled, individually appropriate, and directed towards eliciting the same goal or behavior. (Rock 'n roll music accompanying homework is not necessarily helpful--the nervous system can react to only one thing at a time.)

Physiologically some of the deterrents to learning are improper diet, lack of sleep, and fear. The nervous system reacts best to the familiar, and anyone who has ever panicked or blocked has experienced the fear of thinking. This might be overcome by conscious relaxation--walking away or having a "time out," the tool used in behavior shaping with success.

On the positive side, we learn through observation; we learn when we are not hungry, tired, or fearful; we learn more easily when there is fun involved; we learn through stimulation of all of our senses, combination of visual, auditory, tactile, etc. stimuli. We learn what we do, repetition being essential.

The human organism receives stimuli by means of sensory receptors, capable of receiving three kinds of stimuli:

1. Exteroceptors--what one receives from his environment:

    Auditory

    Visual

    Taste

    Smell

    Cutaneous (pain, temperature, light touch or gross touch, tactile)

2. Proprioceptors--from one's own self:

    Muscles

    Tendons

    Joints (deep pressure)

3. Interoceptors--from one's insides:

    Viscera ("guts")

    Hunger, thirst, discomfort

There is a sequence of reflex development and development of skeletal function through which we all progress, if indeed the development is normal. As maturation takes place, certain postures become characteristic of age levels. Such postures might be referred to as developmental milestones. Although a baby progresses from one posture or pattern to another, each step along the way may not be performed par excellence before proceeding to the next. As one observes any normally developing baby, he may pull to standing, revert to crawling or rolling, assume a sitting position, etc. He draws on a continually expanding repertoire of motor acts and postures. The substitution of one for the other comes with gradations of skill and experience that lead to the discriminative use of one means of locomotion or ambulation, the adaptation of behavioral responses as maturation occurs.

It has never been proven that a child must crawl in order to reach the next level of development. Therefore, when we suggest offering activities that reinforce crawling or sitting, or whatever posture, it is with the idea of expanding a repertoire of position moving activities which call in postural readjustment and which are not an end in themselves, but rather a means for the child to become more aware of the function and potential of his body, a means for exploring the environment.

In our environment, all things are relative and they share the primary constant, which is gravity. Strauss and Lehtinen (1947) told us that

> we must have a point of reference around from which to organize the relative impressions which we get so that we can impose some kind of order upon them and construct a coherent totality. Objects about us are oriented in space with reference to our bodies,

> and their position is judged with relation to that of our own body.

Knickerbocker (Chief, O.T., Fort Dix, New Jersey) suggested:

> In the creation of body schema, all senses are collaborating. Body image is an outgrowth of this sensory input, and in its final outcome is a unit. Every unit has parts and sides which are comparatively independent of each other. Awareness of identity of parts, of their position and movement within our own body of another person. With ourselves as the point of reference we orient other people and objects according to the direction and distance from ourselves. When this is achieved, then we can visually project and perceive objects outside ourselves. We can perceive distance and direction of one object in relation to another. Thus we are constructing a "space world around us" (Knickerbocker, 1966).

The earliest influence in the development of body image is probably kinesthetic and tactile. The security a baby feels when being held or patted gently is probably one of his first links to his environment. Slow stroking or physical handling in a gentle manner is generally successful in calming the hyperactive brain injured child who is probably functioning at a low level of central nervous system development.

Body image is an awareness of not only one's own body parts, but also of how those parts are related, how each is separate and individual, how they function together. Body image is learned through experience with one's environment, through visual, auditory, tactile proprioceptive, and kinesthetic senses, through the organization and integration of stimuli which will result in a coordinated motor act.

To reiterate, motor skills develop only with repetition and reinforcement of desired motor behavior. Any exploration of environment must obviously be concerned with the development of spatial relationships, the individual body image being the point of departure for movement into the environment. The exploration of environment creates experiences in movement itself. Factors of movement involve weight--strength or lightness; space--personal or general; time--quick or slow; flow--sudden, sustained, or rhythmic.

Thus we have discussed the components of a treatment rationale or gross motor activity program which has been developed at Orchard School for Special Education. The need for working with children at as houng an age as possible is strongly urged, as the nervous system is more plastic, but since the cerebral cortex is not fully matured until after the age of 21, this kind of program may offer some motor gains beyond the expected age.

The motor activity program at Orchard has a three track structure and is based on concepts advocated by Fiorentino, Bobath, Rood, Kephart, and the British movement exploration approach.

The first tract stresses the reinforcement of the sequential milestones that mark motor development: withdrawal, rolling over, pivot prone, all fours, two point kneeling, sitting, standing, walking, and skill development.

The second track has to do with sensory deficiencies or, in a more positive way, with sensory stimulation. Passive assistive activity--whole body activity to bring awareness of the affected portions as part of the whole body--are used. Cutaneous facilitation to increase sensory input on the limbs is administered by means of Margaret Rood's brushing and icing techniques. To reinforce by proprioceptive or kinesthetic methods, we increased muscle sensation through weighting, pounding, pulling, rubbing, and stretching muscles or parts of the body for an increase of input sensation. Equilibrium reactions and position moving activities call in postural readjustment.

The third track, also running parallel with the other two but with the potential of vertical extension, incorporates the use of the British movement exploration approach. This affords the child opportunity to use his mobility in order to gain for himself increased awareness of what his body can do, where it can move in space, and how it moves.

The following illustrate how these three tracks emerge into a structure upon which a gross motor activity program can be planned:

1. The withdrawal pattern is a total flexion of trunk, arms and legs while in a supine position. This is really an early childhood posture which is maintained throughout life as part of a defense system, the kind of curling up we do when we are cold or not feeling well or feeling defeated. It is at this level that tactile sensation is of extreme importance, since security may be communicated in this way. So, passively rolling the child up from a supine position on the mat, cuddling him, giving him a large furry toy or soft pillow to hold, rolling him in a towel or blanket, all reinforce this early posture, with added tactile stimulation. The exploratory approach to having this position reinforced might be to give him directions such as , "curl yourself up as small as you can" or "hug yourself." Have him curl or roll in a round plastic basket, play roly-poly rocking on back with knees brought up to chest. As language develops we might direct him to "make yourself in a small shape." His understanding of the difference in shape when he is learning to read or write is enhanced, for the word has more meaning when applied to self.

2. The second movement pattern, following steps of reflex development (please do not confuse the use of movement as "patterning") is the roll-over. Rolling from one side from a supine position on the mat, flexing the arm and leg on the one side, extending the arm and leg on the side to which he is to roll. Activities might include having the child roll over to retrieve a toy, rolling over a large treatment ball, or rolling down an incline or over a pillow to experience the feel of gravity. Give him landmarks to watch while he rolls. Use different surfaces to point out tactile differences. Have him roll under obstacles, talk about what part of his body is on the floor, his back, his side, his tummy. Directionality may have more meaning for him after this kind of regime.

3. The next posture in the sequence would be the pivot prone. The child lies on his stomach in total extension, head up, weight on shoulders and elbows. This is particularly important for the cerebral palsy child who often has head and arm control difficulties. Have the child reach, grasp, and release toys while in the prone position. This may induce some added differentiation in hand and finger use, as the gross movements stemming from the shoulder girdle are more controlled in this position. The shift of weight from one side to the other, the necessity of getting the head up, and visual training at this level are prerequisite for later manipulative development. Walking is a movement requiring rotation, requiring shift of weight.

From an exploration standpoint, have the child wiggle through a tunnel or under an obstacle, or slide down a sliding board on his tummy, feet first, for the feel of gravity; have him navigate in amphibian fashion on a small scooter.

4. The all fours position is the next step in development and concepts of over, under, through, behind, in front of, on, and off, may all be added to any crawling activities. Have the child put one hand and one foot on the mat, the other hand and foot off the mat. Kinesthetic reinforcement is gained by using weighted sandbags, pony express style. Again, the abstract language becomes more meaningful when developed by the child's own behavior, his own exploration and discovery.

5. Two point kneeling might include activities performed at a low table, knee drops on mat or trampoline, circle games with the children doing heel sitting, or races carrying articles in their hands. All of these add to the repertoire of movement that we want the children to achieve.

6. Sitting balance is next established. The use of apparatus such as small scooters, dollies, or tricycles will incorporate sitting balance with reciprocal leg movements. Circle games, with passing of items to alter equilibrium, ball rolling, catching, throwing from a sitting position, or sliding down an incline, are just a few ways to kinesthetically reinforce this posture. Point out joint positions while sitting and the difference between straight or bent joints. With our very young Down's Syndrome children, we've added another dimension which employes color concepts taught in the classroom. We have each child sit on a small carpet sample, each a different primary color. We have bean bags that match the colors and play circle games such as, "Simon Says put the beanbag on your head, or on your arm" and so forth, reinforcing body part identification. This might be followed by a game of, "Who has the red, or yellow, or blue bean bag, throw it to me," creating a productive relationship between classroom and physical education sessions.

7. With standing balance, static motor development may be emphasized, for until equilibrium is really developed, laterality is difficult to establish. Activities and added stimuli for this position might include standing and galancing on one foot, on different levels, on a line, on a balance board, on an incline, on a trampoline, standing and using arms in different ways, standing on toes, or on heels with bent or straight knees with feet apart or together.

8. Walking becomes a means for the child to experience the use of his body parts in many ways, on a balance beam, on different surfaces and levels, up and down inclines, with knees bent or raised high as done in marching. Concepts of time, fast-slow; of force, hard-soft; and of flow, sustained-sudden, can be reinforced on the conceptual level when elicited by motor behavior. Exploration of spatial relationships, discovery of movement, and problem solving, if you will, leading to higher levels of adaptive behavior should be vigorously pursued.

Motor skills develop only with repetition and reinforcement of desired motor behavior. As stated by Cameron and Pleasance (1966)

> The keynote of all physical education activities should be enjoyment and purpose...Recognizing that each child is an individual with his own particular movement potentialities and creative powers, the teacher will wish to create a framework in which each child can develop these to the full and be allowed to work at the

pace and in the manner most appropriate to his skill and aptitude.

In categorizing grasp types exhibited by the children, a rather obvious fact increasingly became of interest: that the inherent characteristics of the manipulanda had a direct effect on the type of grasp used. The size, shape, weight, texture, and function of the object cause a change in the grasp behavior or manipylative behavior. It is this variance in manipulanda that creates the need for discriminative behavior, the need for perceptual and cognitive functioning.

This leads us to the third component affecting grasp behavior: the motivational value of object to a given child. This fact is easily illustrated by the child who attempts to zip his jacket with a four finger and thumb grip on the zipper almost in a palmar grasp instead of using a more appropriate and more functional finger thumb pincer. Yet this same child employs a pincer grasp when offered a small sugar coated cereal bit or candy.

Careful selection of play materials and play techniques are therefore in order. The criteria for selection of materials advocated by Julia Molloy are as follows:

1. Motoric and sensory appropriateness. The activity toy, or tool, should be within the limits of the child's status in motor growth, grasp, and manipulative level.
2. It should demand the skill for which it is intended.
3. It should be within his experience repertoire.
4. It should be socially acceptable with the child's own level of interest in self-things and people.

Activities, play, toys, and self care opportunities, carefully structured to offer satisfying experiences with simple step by step challenges, are of unlimited number. Water play is extremely adaptable to the various levels of performance, using sponges, meat basters, egg beaters, eye droppers. Food coloring is added to the water for reinforcement of color discrimination plus motivational value. The satisfaction and fun derived from this simple play activity, the cutaneous stimulation of the water and the sponges, and the kinesthetic value of having the squeeze act as reinforcement for the varying types of grasp and manipulative behavior.

The added ingredient of the use of "self" by the teacher, the parent, the therapist, and the aide, can make all the difference between a pleasurable and gratifying experience or one of total frustration, even when the same materials are used.

Gross motor and grasp abilities are enhanced through a sequentially structured program, with repetition and reinforcement of the milestones of development. As the repertoire of motor behaviors are increased and integrated, the potential for perceptual and cognitive functioning increases. The goal of a higher degree of independence is made possible.

IN SUMMARY

by

Julia S. Molloy

We have attempted to broaden the implications of a basic philosophy for educating children with retarded development. We must expect each child to strive for excellence in terms of the kind of excellence that is within his reach. We are challenged with determining what is within his reach and creating the environment and experiences that can lead to excellence in terms of his individual diffeernces.

Bijou's (1966) definition provides a firm rationale for programing. "A retarded individual is one who has a limited repertory of behavior shaped by events that constitute his history, havinga limited ability to profit from experience." We therefore must create and manipulate opportunities for experiences from which he can profit. This requires effective people and intriguing things. These experiences must be (a) appropriate, (b) socially acceptable, (c) motorically right, (d)within social growth level, and (e) significant in the total sequence toward a specific goal. The application of this philosophy seems to indicate a brighter prognosis for our less able children. As learning depends upon the ability to communicate, optimism for the improvement for cognitive ability seems justified. Many pathways for research are indicated.

Conclusion

The experience of being the catalyst for that first, wonderful, meaningful, spoken word, the joy of accomplishment that comes to the teacher or therapist as spoken language becomes a comfortable instrument in daily living, as coordination results from improved body control and management, as skills become meaningful in being useful, as contentment in living becomes a part of daily behavior--these rewards, added to a knowing smile of a child who has achieved something worthwhile, are worth all the hours of investment of your most creative powers and resources. We do not have time to quibble among ourselves. We may like one route better than another but we have a goal--a child whose future will be brighter because many people care and dare. So much lies before us all. Research today is very exciting--in Marylou's words, "We can hardly wait until tomowwow, can we Miss DeWose."

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OCCUPATIONAL TRAINING FOR THE TRAINABLE MENTALLY RETARDED

BY

Wesley V. St. John

The California Education Code is a permissive one. Public schools can only do that which is permitted or required by law. The present law reauires the school systems to maintain special schools or classes for the trainable mentally retarded between the ages of 8 and 18. Programs are permitted for younger children starting at age 5 and for those 18 and under the age of 22. School districts and offices of county superintendents of schools operating special classes for the trainable mentally retarded are permitted to provide a program for the older group provided that these pupils are enrolled in an occupational training program that has been approved by the California State Department of Education.

Retarded pupils who have reached the age of 16, unable to benefit from regular work experience programs, can have the opportunity to attend this special training program. To be in the program the individual must spend 180 minutes in the special class and the remainder of the day in a sheltered work situation.

The school system operating the program can satisfy the requirements of an occupational training program by contracting with a sheltered workshop, a contract workshop for evaluation and/or training, or the school can establish its own sheltered work training center.

The occupational training program for the 16 to 21 age group was started in the special school maintained by the Napa County Superintendent of Schools in September of 1967. Prior to that time the students were dropped from school at the age of 18. The area does not have an adequate sheltered workshop, or a contract workshop so the school established its own sheltered work training center within the special school for the trainable mentally retarded. The occupational training program has become a part of the total school program.

The program for the girls is centered around home arts. This includes ironing, cooking, sewing, cleaning, and general domestic duties. A great deal of emphasis is placed on food preparation. We feel that this might be a unique feature of the program. The group perpares the hot lunches for the multiple handicapped children in the Development Center for Handicapped Minors (which is located in the same building). Food for 20 students is prepared daily. In addition to this, the group prepares a hot lunch one day per week for the entire student population and staff of over 100 people. The girls take part in the planning of the meals, shopping for food, serving the food, and cleaning up.

The food preparation is not limited to the girls who are in the occupational training group. The boys and younger girls also have an opportunity to participate in this program .

Occupational training for the boys is composed primarily of the light manufacturing of saleable wood products. The class has a city business license and operates a production line using industrial power equipment.

In the fall of the year both boys and girls have an opportunity to work in the orchards for part of the day. The last two seasons they have earned several hundred dollars harvesting prunes and walnuts. This experience is not limited to the 16 and 21 year olds. Children as young as 12 have (at the request of the parents) been permitted to earn money picking fruit and nuts.

A number of the boys and girls from the occupational training program are given an opportunity of working as assistant aides in the development center mentioned above. Some of these students have been paid up to $1.05 per hour for working in the center.

During the past two years, children in the center have been doing tasks that two years ago we would have thought impossible of those so limited in intelligence. Girls with measured IQ's in the thirties can learn to make cakes and do other cooking with very little assistance. Under supervision they can prepare complete meals. Boys in the age group with very limited intelligence can work on a production line, efficiently and safely, operating skill saws, table saws, and jointers.

Two boys who have measured IQ scores below 25 are successfully participating in the manufacturing enterprise, operating power equipment.

Several pupils in the program are approaching the age of 21 and will have to be dropped from the program before their 22nd birthday, providing there isn't some change in the present law. A bill has been introduced into the state legislature that would permit a permissive program for those over 21. Also legislation has beee proposed that will lower the compulsory age to 6 and the permissive age to 3 for the trainable retarded.

Each pupil in the TMR program is reevaluated by the psychologist with individual intelligence tests periodically. A good many of the individuals reexamined since they have been in the occupational training program have had considerable increase in their IQ scores. As a retarded person's self esteem increases, his IQ seems to increase. When the retarded person is permitted to perform useful tasks and is given the opportunity to help others, he matures and his functioning level increases.

The following is from the Guide Lines of Developing A Course of Study And Curriculum for Mentally Retarded Minors in California Public Schools, adopted by the California Board of Education, March 9, 1967.

Curriculum for Developing Curriculum for Trainable Mentally Retarded

The curriculum for trainable mentally retarded is based upon the belief that these pupils can profit from a systematic instructional program. Trainable mentally retarded minors can learn to participate effectively with any home environment by learning to take care of their personal effects and by learning to help others in and around the home environment.

Curriculum organization and grouping. The chronological age range of the groups frequently represented in special class programs for trainable mentally retarded is generally as follows:

1. Young pupils, approximate age of 5 to 10 years.
2. Intermediate age pupils, approximate age of 10 to 14 or 15 years.
3. Older group of pupils, approximate age of 15 or 16 to 21 years.

The general program objectives for the trainable mentally retarded can generally be organized and directed toward developing each pupil's competency in:

1. Personal and social aspects of adaptive behavior to cope with recurring daily needs.
2. Sensory and motor skills.
3. Economic usefulness, at least provide the opportunity to train and become, insofar as is possible, economically useful within the home or a sheltered work situation.

Curriculum content and sequence. The curriculum for the trainable mentally retarded must provide a continuum of experiences. The great differences within each child and the range of abilities within any class makes the organization of this program along the traditional patterns impractical. Therefore, the content of the curriculum must be organized in small sequential steps assuring progress toward achieving the goals and objectives of the program. Because of the complexities of the program, guidelines are set forth in specific areas. The curriculum must be developed in each area to include the complete age span of the pupils enrolled in the program.

The following specific areas have been identified as important considerations for the curriculum planning:

1. Self help.
2. Communications.
3. Personal, social competencies.
4. Physical development.
5. Economic and vocational usefulness.
6. Health and safety.
7. Recreation and leisure time activities.
8. Manners and moral development.
9. Occupational training.

PARENTAL INVOLVEMENT IN PRESCHOOL PROGRAMING

by

Mary R. Adair

Gordon (1965), in his review of current compensatory education programs, has stated that most of the programs use common sense procedures which are or should be part of any good educational program. It is in fact something of an indictment that we do not introduce these practices earlier. If some of the procedures utilized in compensatory education programs are, in fact, good then their use with nondisadvantaged students may procure gains as well. The gap between the disadvantaged and others would remain and the question of how to compensate for the discrepancy still remains. The questions of optimal class size and appropriate instructional materials remain unanswered, as does the age at which this instruction should begin. Programs have not yet ascertained how to close the gap between the achievement levels of the ghetto and nonghetto children because teaching techniques which allow for systematic evaluation of behavioral change have not yet been employed.

A survey of the literature regarding attitudes, life style, and achievement of the disadvantaged suggest avenues of approach in closing the achievement gap. When racial and ethnic variables are built into multiple regression studies along with other environmental variables they tend to boost the total variance accounted for. Jensen (1968) has stated that our greatest hope of achieving equality of educational opportunity lies in the possibility of finding significant patterns of individual differences in the development of abilities and in taking advantage of these differences to create the optimal instruction by pupil interaction.

Lesser, Fifer, and Clark (1965) have examined patterns of various mental abilities (verbal, reasoning, numerical, and spacial) of 320 first graders from four different ethnic groups (Negro, Chinese, Puerto Rican, and Jewish). Each ethnic group was divided into middle and lower class groups. Thus 16 groups were compared on test scores. The finding of this study should have impact upon curricular planning. Differences in social class placement produce significant differences in the absolute level of each mental ability but do not produce significant differences in the patterns among these abilities. Differences in ethnic group membership produce significant differences in both the absolute level of each mental ability and the pattern among these mental abilities. Social class and ethnicity interact to affect the absolute level of each mental ability but do not interact to affect the absolute level of each mental ability but do not interact to affec the patterns among these abilities. Therefore, although basic learning abilities do not differ significantly between disadvantaged and nondisadvantaged groups, there appears to be a difference in the ability to respond to cognitive skills assessed by intelligence tests and felt by many to be requisite to educability training.

Rosen (1959) studied the differences among race, achievement, and achievement motivation. Achievement motivation is generated by the socialization process of achievement and independence training. Achievement training means that doing things well is more important than independence, or doing things on one's own in the motivation process. These practices are primarily parent initiated. When Rosen compared Protestants, Jews, Greeks, Italians, French Canadians, and Negroes, it was found that the disadvantaged trained children early to be independent; placed little stress on achievement training; that motivation decreased as class level declined; and that overall motivation was lower for Negroes than other groups, however, achievement and educational aspirations were given high value scores. Vocational aspirations were also lower than for any other group studied. Therefore, in planning curriculum a direct attack on the strengths and weaknesses of the patterns of abilities and family achievement training presented by the disadvantaged population should aid in closing the achievement gap.

If practices which lead to achievement motivation are initiated by parents, it becomes imperative that parents be involved in the academic programs for their children at a very early age. It has been suggested that efforts to involve disadvantaged people in educational matters are quite likely to be rewarded by increased interests in the academic achievement of their children. Reisman (1964) has stated that disadvantaged individuals have a very positive attitude toward the education of their children, but their attitude toward school and education must be considered separately. Parents are willing to help and participate in activities with children, but they don't want to be held totally responsible for any group or for any activity. They function best as assistants to a regular teacher or community aide. Although parents themselves lack talent or skills, they take pride in those of their offspring. If parents can be trained to be effective teachers of their children, the gains the children make should have permanence.

Several studies have indicated that teaching can be done effectively by nontraditionally trained personnel (Greenleigh, 1966; Tannenbaum, 1968). The Star Project in New York which was designed to utilize training paraprofessionals to help parents learn some practical skills in tutoring their offspring. It was found that when well planned lessons were administered by nonprofessionals they were as affective as direct remediation by trained clinicians. Nonprofessionals drawn from a disadvantaged population can learn teaching skills and are often more strict with parents than professionals. "With proper training aides might have succeeded in galvanizing parents to participate more actively in school activities that bear directly upon their children's progress (Tannenbaum, 1965, p. 448)."

The Office of Economic Opportunity has for the past several years been sponsoring special employment projects within the Negro ghetto. One of their efforts has been the creation of a subprofessional category, Within the subprofessional category the position of teacher aide has been created. The teacher aide may serve as a unique resource for involving the parents of inner city children. It is possible that the teacher aide may serve as a bridge in communication between the professional educator and the inner city residents. What may be implicitly understood between the educator and members of a middle class community becomes simply a void in the ghetto. Some of the nonverbal communication that takes place between parents and teachers in the middle class community concerning the parents' role in tutoring their children has simply not been communicated in lower class communities.

The teacher aide would be a person employed from the community who would have established lines of communication with the residents. In the sense that the teacher aide would be performing a unique function in a preschool setting, the general category of subprofessional might be inappropriate. The classification of technician might be a more accurate description, since the teacher aide would be expected to work with comparative independence under the general direction of a teacher. In the process of individualizing instruction a teacher aide would supply the needed additional tutorial help as well as offer a reference point for the child who only knows the ghetto. It may be impossible for a teacher who is foreign to the ghetto to be able to communicate enough with the child to be able to individualize the curriculum. The preschool child of the ghetto who might be normally frightened and nonverbal with the regular teaching staff may feel enough at home with the teacher aide to respond sufficiently to permit a reasonable assessment of his preschool skills.

It becomes apparent that the disadvantaged learner needs more concrete and sensory experiences than normal children to master the same kind of materials. In other words they need to have more associations developed in order to comprehend the skills as they are being taught. However, it is at this point that many educators stop in their curriculum planning. They offer more of the same materials and call it a different educational program. Everyone is then surprised when the children fail to make significant gains. Evaluation of skill attainment is based on samplings of behavior appropriate to the middle class. These samplings may not be appropriate for the disadvantaged pupil. The greater range, intensity, and depth of behaviors may have to be evaluated to be certain that a child is ready to learn a skill. If appropriate entrance behaviors to skill learning are identified, it should not take the urban disadvantaged child any longer than the middle class child to master a skill. Therefore, the emphasis here is on evaluating the readiness experiences necessary to teach a skill, not the ways it can be repeated until it is learned.

We have witnessed the birth, expansion, or death of many compensatory education programs during the past 10 years. It is time to focus our attention on working with parents as tutors of their preschool offspring. Teacher aides have been suggested as a fruitful avenue of approaching the problem. With more intensive programing at the preschool level we may be better able to identify and remediate those variables which do indeed result in an achievement gap. Only then will compensatory education become uniquely beneficial to the disadvantaged learner.

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PRACTICUM VARIETY AND SELECTIVITY

by

Edward L. Meyen

Much of what is appearing in the professional literature has implications for the practicum type experience provided to teachers in training. The focus tends to be on prescriptive teaching, doing away with our revered categorical approach to exceptional children, and making use of new advances in technology. But while the contributors to the literature aim their words of wisdom at changes in pupil behavior, the behavior of the teacher must also change. It may well be that the areas of practicum in teacher training programs holds the key to preparing teachers for their role in bringing the desired changes in pupil behavior to fruition.

While a variety of terms are used by colleges and universities to describe their practicum programs, for the most part there are several common features. In general, the practicum is used as a culminating experience and has tended to be viewed as singular rather than plural. It is also organizationally considered apart from the didactic part of the curriculum. As educators we have, in general, operationally defined practicum as student teaching or an experience in which the teacher in training actually assumes responsibility for teaching a class.

In contrast to other aspects of the curriculum where we find a hierarchy of courses beginning with the survey course and progressing through methods courses, the practicum experience is more circumscribed. I would like to offer two considerations:

1. It may be that there is a hierarchy of practicum experiences which parallel the coursework pattern.
2. It may also be true that the lack of practicum type experience makes the lecture form of instruction less relevant and less efficient.

Discussion on Considerations

Coursework dimensions. Presumably, when a student enters a teacher training program, he knows less about what he will ultimately do than he will when he completes the training program. The sequence of course offerings generally follows a pattern which begins with a survey course focusing broadly on the area of exceptional children, and then the courses become progressively more specialized. When the student completes the sequence of courses, he should have a breadth of knowledge regarding the type of child he is being prepared to teach and should possess sufficient skills to begin him on the road to becoming a successful teacher. In essence, the instructional dimension of the curriculum expands in nature, the curriculum content goes from the general to the specific, while the repertoire of knowledge on the part of the student goes from small to large.

Practicum dimensions. We can also view practicum experiences on a hierarchy, with each level in the hierarchy related to a similar level in the instructional dimension. Our goal in the practicum experiences might be to provide a very general experience, which at times may even be viewed as indirect, and progress through a hierarchy of experiences to a very specific emphasis on pupil-teacher interaction. Sequencing practicum experiences in this manner has the same effect in terms of expanding knowledge and frame of reference of the teacher in training as does the instructional dimension. However, the practicum experience has become more specific.

Participating observations. During the student's enrollment in the survey course, an observation practicum might be structured which actually involves the student in a class setting. It's one thing to observe pupil behavior from an observation booth and something else to observe pupil behavior when you're part of the teaching milieu. The concept of a teacher aide or teacher assistant might well become the structure for practicum experience in observation at this basic level.

Classroom management. The second level of practicum experience could relate to classroom management. In this situation the student would be given some responsibility for managing an activity. The activity may be learning or social in nature. But the student should be given responsibility for managing the situation. This, or course, should come after the individual has developed sufficient observation skills and has been able to relate what has been observed to expected pupil behavior.

Selection of material. A third level of experience relates to the instructional content in lecture type methods courses that pertain to the selection of materials. While professors in methods courses do give attention to criteria for selecting materials, they can't devote the time required to this activity which will allow the student to become efficient in the process. The type of experience that the student needs to develop skills in selection is not the kind of experience which you can readily provide in a lecture type methods course. The student might better be assigned to a practicum experience in which teachers who are actually teaching in classes assist the student in relating materials to certain kinds of problems exhibitied by children. If the materials are available in a laboratory school setting, the demonstration teachers can be used to provide laborabory experience. If a student is able to acquaint himself with materials and then be allowed to interact with teachers regarding why they use certain materials with certain pupils, the student may become much mores sophisticated in the process of selecting materials in a shorter period of time than that which might be accomplished in an instructional type course.

Development of materials. I have always been intrigued by the amount of emphasis given to the modification or development of teacher made materials in the education of the mentally retarded and the minimal amount of attention given in coursework to the actual design and developments of such materials. First of all, it is not an easy task and many of us who teach methods courses are not very efficient at it. This may well account for the lack of attention given to the development and modification of materials in the curriculum. It seems to me that we should work toward the establishment of situations in which we can offer practicum type experience for teachers in training with people who are actually involved in the production of the materials and the use of the materials. It has been our experience in our curriculum center that many teachers are not very effective at developing materials from their own ideas or modifying materials to the degree that the materials can be shared with someone else. But there are those teachers who do have this skill, and who can relate it to other people. It appears to me that this is a very important type of practicum experience which cannot be adequately covered in a methods type course. It takes a type of situation in which the person is allowed to work on the development of materials and then encounter a problem. At that time the assistance is provided the student--not two days later, during a regularly scheduled class period. The practicum experiences can parallel what takes place in the lecture type course.

The teacher's task. It is at this level that practicum involves the pupil and the teacher--all the skills and knowledge that the student has acquired through the didactic program and the other practicums at this point are employed. Here again, we should call for variety in terms of the practicum experience. While I have suggested a variety of kinds of practicum, there is also merit, particularly at this level, to push for variety within a practicum experience. For example, if a student teacher is to be given experience in programing for a specific child, then we must structure a situation in which he is responsible for determining the instruction for a given child and implementing the instruction. This also applies in terms of group situations.

In summary, I am suggesting that we can develop a hierarchy of practicum experiences and relate them to the hierarchy of experiences in the instructional dimension. Such an approach might better prepare the student in training for the ultimate type of practicum experience-- the student teaching situation. It might well add relevancy to the course content. In terms of efficiency, it has been my experience that students grasp concepts related to teaching techniques and materials much quicker when they are actually involved in the subject matter. It has often been my experience that even through the use of videotape and demonstrations, that my methods courses were still somewhat abstract. I am also convinced that those who work with children daily are in the best position to interpret the nuts and bolts of classroom teaching to teachers in training. Increasing the investment in practicum experience does not mean that we take away from the content that can be offered through lecture type coursework; it just means that we add another dimension to it, which allows for a more meaningful presentation of certain factors and also permits a greater depth of presentation in other kinds of information.

In closing, I would again offer the reminder that practicum type experiences provide for interaction between the teacher in training and materials, the teacher in training and pupils, and the teacher in training and the practitioner. It also allows for the integration of the practicum type experience in the process of training, not necessarily just a culminating experience.

PROBLEM AREAS FOR RESEARCH IN SPARSELY POPULATED AREAS OF THE WEST

by

Gene Hensley

Research in special education as in other fields has not always been directed toward the solution of immediate problems. This fact has been a point of misunderstanding and sometimes conflice between dedicated researchers and teachers. It is well known that many practical educational problems cannot be solved until a large body of knowledge has been accumulated--at which time these problems may become researchable (Travers, 1964). In one sense, research is a very personal matter depending a great deal on the interests and competencies of the researcher, and possibly less on the pressing problems as perceived by the nonresearcher. But the teacher cannot help feeling impatient with the impractical theoretician. How can one wait for research to enlighten him when right now there are decisions to be made and problems to be solved which will affect the future of so many children?

Further, direct attacks on school problems by action oriented "teachers turned researchers" have not always been fruitful, partly because teachers often lack research training, time to carry out their efforts, and the expertise to see the commonalities as well as the uniqueness of problems, e.g., studies of local problems sometimes are little more than replications of studies involving similar populations in other geographical areas. Despite these problems, efforts to interest educators in research have paid dividends in increasing their receptivity to scientific inquiry and in creating a demand for objective data.

Research in Remote Areas

Three problem areas having particular significance for educational services for the mentally retarded in remote regions are: research relating to child development, research concerning curriculum, and sociocultural research.

A recent article by Conger (1968) has pointed to the importance of viewing mental retardation as child development; the need to view the child as a totality, retarded or not, and as a person whose behavior can be understood only if he is studied as a biological organism constantly interacting with his psychological and social environment. Cooperative, interdisciplinary research emerging from a great deal of carefully collected information about children functioning within their culture can provide educators with the refined information needed for program development and implimentation. In the West, bilingual factors, influences of geographical mobility, tribal traditions, and rural conservatism affect the functional capabilities and behavior of children. Other important factors to be considered are isolation, poverty, nutrition, and family organization. Subcultural variations are particularly important. Ethnic groups may differ markedly in the cognitive behavior they reinforce in their children.

Curriculum research and demonstration have been a major concern of special educators for a number of years, and modern concepts of curriculum cover a great deal more than subject content. Curriculum research is now viewed as research concerned with content, the entire school experience of the child, and the school's overall plan for achieving stated objectives. Numerous curriculum studies have been described in the literature. A particularly difficult area of study relates to teacher attitudes and activities in regard to the gap between the experiences of the teacher and those of the pupil. Another research focus has centered on the feasibility of services, taking into account remoteness of facilities and talent as the major variables. Still another is the comparative assessment of rural versus urban curricular patterns as they relate to the acquisition of skills, the development of personality, and eventual employment.

Farber (1968) discusses the relationship between cultural variations and mental retardation. He stresses the importance of studying cultural content rather than the problems of insitutions involved in the socialization process, e.g., the relation of norms, skills, and organizational characteristics of the public culture (the American society) as related to the intellectually inhibiting effects of the private cultures. The sparsely populated states of the west support many private cultures which do appear to inhibit rather than foster the development of the processes regarded by the public culture as intelligent. We are aware that these subcultures do not provide the norms which are required by public institutions but we need to study in more detail the complex relations between certain private cultures and the demands of the educational institutions of our larger society. The whole problem of values and value systems is very important to special education in the west, e.g., the relation of a noncompetitive value system in a given Indian community to an emphasis on active competition in a public school.

In special education a new breed of educational researchers appears to be emerging with a sophisticated approach to problem solving, but with an appreciation for the practical problems of instruction and learning and a perceived professional role which includes the translation of acquired knowledge into information which could have practical value for practitioners. In other words, a researcher with a felt obligation to follow his conslusions into the world of teaching-learning and administration is visible.

In my opinion, it is this type of researcher who is needed in the western region--one who is sensitive to the complexities of problems in the rural environments; is aware of our negligence of problems in remote areas; and who possesses the professional skills required to study and interpret our educational issues.

Problem Areas Identified Through WICHE Programs

In 1966 the Special Education and Rehabilitation Program of the Western Interstate Commission for Higher Education (WICHE) initiated a series of activities to encourage educational researchers to focus on problem areas relating to special education services in sparsely populated states. These planned activities began with a national research conference in special education. This national conference was followed by regional institutes for state special education personnel, and later by a series of seminars in each of the 13 western states which were designed to stimulate cooperative research efforts among special education and rehabilitation personnel in western universities, public schools, and state institutions. Some of the problem areas which have been identified as a result of these activities are as follows:

Administration. In administration there is a need for new patterns of organization suitable for delivering special education services in remote areas. There is insufficient information regarding mentally retarded children living in these communities. Questions regarding the mobility patterns of their parents, the occupational opportunities available to adolescents, and even such basic questions as where they are located, what kinds of services they need, and from what sources are they now receiving help, are yet to be answered in many of the western communities. There also is a need for careful exploration of the potential for subregional or area program approaches. Is it feasible to develop service areas with boundaries not necessarily designated by cities or counties? Is it possible to develop cooperative service programs involving agencies and universities which cut across state lines? The feasibility of both interstate planning and services needs to be explored in detail. Furthermore, a careful assessment of existing administrative patterns could be useful. Many special services for mentally retarded children in remote areas will require that the administrative structure be flexible and that local school districts, state departments of education, and other school programs cooperate in order to get the job done.

Problem areas having to do with financing special education programs are yet to be studied. There is a need to review a number of systems to determine which are most efficient, and to examine various types of legislation in western states which have strengthened or which have a potential for strengthening programs for the mentally retarded. An analysis should be made of our present systems of allocating funds to test their efficiency for direct services to the mentally retarded. The relative costs of special education programs should be examined. Realistic figures for given geographical areas are needed relating to the cost of all services including special classes, teaching personnel, ancillary services, and other institutional programs operating within the area.

Personnel. Adequate numbers of well prepared special education personnel constitute a major problem in many of the western states. At the present time special educators are expected to have a variety of competencies, to meet all types of learning problems, and to provide educational services under a variety of circumstances. We need basic information concerning the learning needs of children within specific geographic areas if we are to meet these needs and determine the resources and services which are available to teachers. In addition, we need regional recruitment programs which have an evaluative or research component. Finally, we need answers to some basic questions--What are the factors involved in effective retention of the teachers of the mentally retarded in sparsely populated areas? What is the relationship between programs of professional preparation in colleges and universities and tasks of teachers in rural areas, particularly those who work with the mentally retarded? What can be done to assist regular class teachers to do better teaching of mentally retarded children? What are the basic skills essential for teaching mentally retarded children whose intellectual functioning is complicated by the content of their subculture? What can be done by way of special institutes, projects, and various forms of continuing education to more effectively solve these personnel problems?

Education and related services. It is clear that the development of educational programs and related services depends upon certain geographical considerations, professional resources, and a number of community needs and expectations. It is probable that many practical problems are researchable only if basic data are collected. For example:

1. Population trends--particularly in regard to the incidence of mental retardation and related disabilities.

2. The availability and utilization of ancillary services.

3. The number and distribution of professional personnel.

4. The political characteristics of the community and the community's receptivity to efforts aimed at providing improved services.

There are a number of fundamental questions relating directly to the families which need to be studied. For example, how do the families in rural areas view the importance of education and related services? How consistent are the views of a particular family with those of the subculture? What are the parental expectations in regard to the mentally retarded child and what influences do their aspiration have on performance? What are the coping abilities of the family?

The question of the influence of ethnic, cultural, and psychological factors which differentiate the behavior of one family or community from another could be important. The literature tends to support the position that various special education services may not be requested by a given community, but once they are made available they are used extensively. There are a number of issues which relate to services by agencies and other groups. What changes in the organized services provided by agencies could be instituted to make them more effective? What is the effect of existing regional services in a given area? What information could be transmitted to training professional personnel which would improve the existing services of agencies and centers?

Sparsity and research. There is little doubt that remoteness presents problems in the development and use of services. Yet, sparsity can be symptomatic of some more fundamental factors. Determining the characteristics of a community may be far more important than describing relative degrees of sparsity. Some important factors are poverty, the nature of the rural education system, the total rural environment, ethnicity, mobility, and the cultural gap between the people providing services and the people receiving them.

Many of these factors are interrelated. The relationship of poverty to mental retardation is an important area for research. The effects of low income can have a great influence on both the learning ability and the learning environments of people. Many of the mentally retarded youngsters particularly from migrant families have remained unidentified and untreated. Migrants' problems are also complicated by language and communication factors, particularly among the Mexican-Americans.

Other important factors relating to the educational system are the low tax base, lower than average salaries, and the consequences of poorly prepared teachers. Closely related is the shortage of trained personnel. In many remote areas there are no professionally trained people in the field of mental retardation. Also, there may be a general presence of conservative attitudes in rural populations. Rural populations are often resistent to change. Because of this, it is important that those who provide the services examine what services are acceptable to the people involved. A further factor might be the lack of adequate health related programs. When health facilities are poor, health levels tend to be lower than normal, resulting in physical and mental subnormality with the consequence that rural people are sometimes characterized as lazy or dumb when the real problem may be the basically unhealthy condition which prohibits a child from learning and growing into the kind of person that has status in the public culture.

Ethnicity and the language barrier are another important area. Knowing what the child is saying and being able to establish an honest communication with him are essential for effective teaching. Closely related is the ethnic stereotype held by teachers and others.

Finally, more information is needed concerning the cultural gap between the providers and the receivers. It is vital that those who provide specialized services, particularly to the mentally retarded, understand the content of the subculture they propose to work with. Children from subcultures, particularly poverty areas, who must attend middle class oriented schools are sometimes compared unfavorably with children who have middle class values and social experience. A major task is to prepare the teacher to relate to children in ways that are not set or determined by urban or middle class norms.

Basic research is one of our most important sources for positive change in development of services for the mentally retarded. In rural areas, as in urban centers, some of our most important contributions to services for the mentally retarded have come from professions outside of special education. Professional persons in special education who have developed a research interest in some of the problem areas already cited should encourage persons in the fields of medicine, anthropology, psychology, and all the social sciences to work cooperatively with special educators in collecting better data and eventually pursuing the problem areas which mare consistent with their competencies and skills.

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PROGRAM EVALUATION--WHAT AND HOW

by

Austin J. Connolly

My topic for this session relates to the mystical art of evaluation and the identification of factors which facilitate the process. Evaluation is the process of determining the worth of something. The validity and reliability of judgments stemming from this process are enhanced by the quantity and quality of information that is accumulated during the evaluation.

It is not my intention to belabor the need for evaluation at this time--any good text on administration or curriculum has eluded to it. Rather, I would like to spend this time presenting an interim report on a study being jointly conducted by Schofer and Connolly. This study is an attempt to ascertain what particular sources of evaluative information have proved most helpful to training programs preparing teachers to work with the mentally retarded.

Approximately 38 percent of the programs which have federal grant assistance for the preparation of teachers of the mentally retarded have been randomly selected and contacted. The director of each of the selected training programs was requested to complete a comprehensive questionnaire designed to accumulate data identifying their activities in evaluation and those program variables which might affect their selection of assessment procedures and methodology. At this time, 61.4 percent of those programs contacted have responded.

The questionnaire was structured to obtain specific information regarding nine sources of evaluation information. Prior to identifying these particular resources, let me indicate that there were two resources we deliberately excluded from our review.

The first of these represents the ultimate evaluative instrument. Respondents were quick to point out that we had avoided mentioning the functional ability of retarded youngsters who have had those teachers we prepared. However, the difficulties encountered in efficacy studies, followup studies, and others such as the analysis of reading approaches by Woodcock and Dunn (1967) suggest that the utilization of youngsters as evaluative criteria is a formidable task even on a small scale. Thus, it would appear that such information will have to await our technological advancement when adequate simulation of the classroom is achieved.

The other area which we avoided investigating relates to the training and experience of the program's administration personnel. This is admittedly a major contributor to the growth and quality of any program.

Respondents were asked to rank the nine factors we did investigate in terms of their past contribution to their program's evaluation. Let me identify each of these factors in their order of importance and discuss the implications of each.

The respondents in this study indicated that the performance of student teachers was their most important single determiner of program effectiveness. This selection indicates that the supervision of student teachers is a two way street which is not only capable of assisting the student teacher, but may also provide directional guidance to our training programs.

The implications of the selection of student teaching as a very important evaluative tool are many. It would appear from the data we have thus far garnered that more and better supervision of student teachers is needed. Few programs have staff members whose full time responsibility is the supervision of student teachers. This position must be given greater status for the sake of student teachers and program guidance. In addition, if program direction is desired from the performance of student teachers, it would seem advisable to make the evaluations of our student teaching population more objective. While the majority of the programs indicated that they utilize a rating form when evaluating students, only 15.4 percent of the respondents indicated they had ever given consideration to quantifying the student teacher rating scale so that group profiles could be developed. Such a profile could depict the strengths and weaknesses of an entire student teaching population for a semester or academic year. This information would not only be immediately useful, but could also be used as baseline data for comparative purposes in future years.

Respondents identified the preparation of grant porposals as the next most useful contribution to the evaluation process. The preparation of a training proposal provides an external demand for periodic reassessment of the program's accomplishments, goals, and the rate of their attainment. Nearly all of the respondents felt that their participation in grant programs had markedly enhanced their training program.

They indicated that the incentive federal funds supply had made it easier to obtain administrative support and maintain high standards. The funding itself has increased the quantity and quality of instructional staff, students, consultation, research efforts, travel, and materials.

Information obtained from program graduates who are now teaching was given third priority in this list of evaluative agents. All respondents indicated that they felt teaching graduates would be capable of evaluating the instructional effectiveness of their college professors, the utility of their special education curriculum and methods courses, and would make a significant contribution to such courses if they could periodically submit their classroom problems and curricular concerns. From the strength of the respondents' responses one would think we had in about God, country, and motherhood. Unfortunately, simply recognizing the potential of a procedure does not bring it into fruition. Of the respondents, 46 percent indicated that they had provisions for student and graduate feedback regarding the instructors' effectiveness, 23 percent indicated that the utility of their methods courses were evaluated, and 34 percent implied that graduates teaching in the field submitted their classroom problems; however, it was indicated that feedback regarding classroom problems was raised by teachers taking additional course work rather than as a deliberate attempt on the part of the program to solicit such information.

Only 46 percent of the programs contacted maintain records of where their graduates are teaching. Only 12 percent of the programs maintain any regularly distributed newsletter. Many of the respondents indicated that they maintain contact with the graduates of their program on an informal basis through extension courses, workshops, etc. One might question the amount of objective data regarding program evaluation accumulated in this informal fashion. Let me digress for a minute from the questionnaire results to illustrate the need to followup data.

All of the major texts relating to the curricula of trainable children have identified self help, social, and occupational skills as primary needs of these youngsters. However, Hudson (1960) in an exploration of classroom procedures for teaching trainable mentally retarded children found lesson areas relating to self help, occupational, and social skills receiving ninth, tenth, and eleventh priority respectively in terms of time spent in relation to a list of 15 lesson areas. I would hope that an analogy between that situation and our respective training programs could not be made.

The remaining six information resources were regarded of considerably lesser importance than the preceding three. Individual respondents varied the rank order markedly according to the size of their program and its current rate of development.

Attendance at professional meetings was ranked fourth according to the rank established by all of the respondents. It was indicated that such attendance provides contact with other professionals in the field; a sounding board for ideas, methods, and diverse opinions; and maintains instructional enthusiasm and research interest. In regard to the respondents' regular attendance at specific meetings, 88 percent attend national CEC conventions, 83 percent attend state CEC conventions, 57 percent attend national AAMD conventions, and 53 percent attend regional CEC and AAMD meetings. In terms of value received from attendance, 61 percent of the respondents listed the national CEC meeting as most important while 30 percent favored the national AAMD convention.

Contact with personnel at state and local levels was ranked as the fifth most important evaluative factor. Approximately 70 percent of the states in which the respondents were located have some formal organization for administrators of special education. Unfortunately, the involvement of training personnel in the meetings of these state organizations is somewhat limited. While 62 percent of the respondents were displeased with their influence on state legislatures, 82 percent were pleased with their relationship with state department personnel, and 91 percent were pleased with their relationship with local directors of special education. However, only 8 percent of the respondents disseminate a newsletter to administrative personnel in the state keeping them informed of program activities.

The participants in this study indicated that the Program Standards developed and published by CEC ranked sixth in terms of their evaluative contribution. Ninety-six percent of the respondents indicated that they were familiar with these standards and used them as a referent to guide certain aspects of their program development.

Staff visitations to other colleges having programs to prepare teachers of the mentally retarded were the seventh ranked evaluative factor. Approximately 65 percent of the respondents in this study make a practice of visiting other training programs. These individuals indicated that they have found such visits to be most useful as a resource for ideas and subjective comparisons.

The contribution of consultive services was ranked eighth in importance by the participants in this study; however, certain respondents indicated they had found such service extremely beneficial. The type of consultive service utilized by the individual training programs depended on their specific needs. As a group, the respondents indicated that their consultants had been most useful in reviewing course offerings, practicum situations, and strengthening administrative commitment. Surprisingly, only about half of the respondents in this study make a practice of utilizing consultive services.

Most of the respondents ranked the influence of accreditation organizations as the least important of the nine evaluative factors investigated in this study. Some questioned the possible contribution that an accreditation organization can make to a specific instructional area such as special education. This may suggest that some special education personnel need to become involved in the activities of accreditation organizations to increase their effectiveness in our instructional area. It should be apparent that such organizations are in contact with many schools having special education programs which may not be receiving the scrutiny of the training programs requesting grant support.

The nine resources of evaluative information which were investigated by this questionnaire have now been identified in the order of their past contribution to training programs participating in this study. In the summary of the questionnaire, respondents were asked to rank in order the same nine sources of evaluation in relation to their ultimate potential for contributing to a training program in mental retardation.

This ranking produced some major changes in the relative order of the resources and I'll restrict my comments to such changes. Generally speaking, the new order indicates closer alignment with the classroom and the instructional process.

Teacher feedback was clearly seen as the most important resource of the nine areas under consideration--nearly half of the respondents identified it as first.

Consultive services which was ranked eighth in relation to its past contribution was placed fourth in terms of its ultimate potential. Greater emphasis was also given to the potential of staff visitations.

At the same time, resources such as Professional Standards, attendance at professional meetings, and accreditation organizations were relegated to lower status.

At the conclusion of the questionnaire, respondents were encouraged to make appropriate comments regarding program evaluation. An anonymous member of this panel responded with the suggestion that the investigators had neglected an aspect of the total information pool--namely the effect of studies such as the one now being reported.

There have been a few research efforts completed in our field which are directly relevant to the topic of evaluation. Mackie, Dunn, and Cain (1960) came out with a report on the "Professional Preparation for Teachers of Exceptional Children." Within that comprehensive report was a list of the 10 most important teacher competencies as ranked by teachers of the mentally retarded. Unfortunately, the teachers making the rating felt inadequate on many of the competency areas they deemed most essential.

Goldberg (1957) had nearly 300 respondents in a questionnaire he sent to special education alumni of the Teachers College at Columbia University. These respondents made numerous recommendations relative to their professional preparation.

The personnel in the program in mental retardation at the University of Missouri in Columbia is currently in the developmental stages of a major effort to systematically identify the instructional and behavioral classroom problems of a cross section sample of our teaching graduates. Data obtained from a comprehensive study of this type may suggest needed revision in our training.

In conclusion, let me reassert that "evaluation must be an essential component of our instructional programs; without which, we shall continue to operate by hunches, authority, tradition, and personal experience (Moss, 1968)."

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ABSTRACT

RECRUITMENT, SELECTION, AND RETENTION OF STUDENTS IN A TEACHER PREPARATION PROGRAM IN MENTAL RETARDATION

by

Jack C. Dinger

A questionnaire was sent to the approximately 300 colleges and universities funded by the US Office of Education, Bureau of Education for the Handicapped, requesting recruitment, selection, and retention techniques. The range of ideas

compiled should directly benefit every institution interested in improving the techniques of recruitment, selection, and retention of students in teacher training programs in the field of mental retardation.

Examples of generalizations drawn from the specifics presented include:

1. To improve recruitment--Provide early personal contact with retarded children or a motivated special education college student.

2. To improve selection--Require some contact with retarded children prior to entering field.

3. To improve retention in mental retardation field--Provide college faculty who have had successful teaching experiences with retarded.

THE ROLE OF THE COMMUNITY AGENCY IN THE INTEGRATION OF EDUCABLE RETARDED PERSONS IN NORMAL GROUPS

by

Mortimer Goodman

The rationale for a policy of a large group service agency to integrate educable retarded people in normal groups has both community implications and specific implications for special educators. We will review the creative use of observation and record material and the further development of interdisciplinary roles in helping the educable mentally retarded. Other implications of this experience involve: (a) community receptiveness to the inclusion of EMR's in regular leisure time groups and (b) the relationship of special education to this kind of agency based investigation.

We believe that group workers, case workers, and similar workers all aim at the same target as do special educators of the retarded child, namely, to enhance his personal competence in the wide world that is just beyond the classroom door. We all see this child as being different in some ways but, at the same time, having the same growth needs as other children. As Kenneth Soddy (1962) put it: "It is the first clinical principle that there is an unbroken gradation between severe defect on the one hand and normality on the other--in all aspects of bodily and mental development." Or, as an early worker in the field of mental retardation stated:

> His basic emotional needs are the same. Attention, acceptance and a feeling of accomplishment are as necessary to his well-being as they are to the normal, and must be continuously supplied if we are to build in him a strong personality structure (Drewry, 1955).

Educators seek to assist youngsters to develop personal competence in order to engage themselves in community living. "Most reputable behavioral scientists now embrace the interaction theory of the development of intellectual functioning, emphasizing the decisive influence of the organism's encounter with its environment (Wilkerson, 1968, p. 340)." From this point of view we believe that there is more opportunity for community officials to enhance the personal competence of the educable retarded than for many other kinds of handicapped children. The EMR pupil's encounter with his neighborhood and community is in most cases within the so called normal environment. After school hours, many of their parents are able to enroll them in regular Little League, regular scouting, or regular camping because the handicap is not obvious and not damaging. This child is similar to most other children except for slowness in comprehension and skills related to the demands of a specific setting. On the other hand, the child with diabetes or a heart condition is not enrolled in normal youth pursuits without immediate jeopardy to his health or safety, although he too may not be perceived as being "different."

The assumption that the performance of EMR youngsters falls in the normal range of possible behaviors along with learning problems that require special education caught the attention of the St. Louis Jewish Community Center (JCCA) several years ago. In 1962 it was noticed that EMR children were already active in agency programs, and some of the staff became interested in furthering their social enrichment on the premise that intelligence measurements do not fully reveal the subtle variables that make for personal competence. To test this premise, the staff decided to encourage them to continue in regular groups. Could necessary coping skills be observed and studied if the EMR's were afforded more expanded personal experiences in normal groups?

The staff posed two basic questions: in what ways, and to what degree, might EMR's engage in normal groups; and what effects, difficulties, or problems would this procedure of integrating them in regular groups have on the agency, its programs, policies, and membership?

The JCCA's modern, main building is on a large suburban site. Designed to accommodate its 14,300 members with playrooms, athletic facilities, crafts rooms, etc., it is open 7 days a week, closing only on Friday evening. There is no public transportation and all children are brought by parents, friends, or in car pools. During the summer, over 1,000 children enroll in two day camps that include busing, and 400 enroll in the resident camp. All of the groups meet weekly, except for the daily gameroom and summer camp programs. The staff, in maintaining notes and records on EMR participation in groups composed of normal peers, found that 41 youngsters age 6 to 19 (who were diagnosed educable retarded) had become active in JCCA groups from 1959 to 1965. About half of them first enrolled when they were 9 to 11 years of age. Forty percent of them enrolled initially through the day camp or resident camp. Three of them were in the agency's day care center for at least one year before being diagnosed. These children came from lower middle and upper middle class homes.

Most of the 41, who came to be known as the pilot group, selected at least two groups, and some took as many as 20 enrollments during 6 years. The regular agency groups they joined included cooking, sewing, woodworking, swimming, playgroups, scouting, camping, and the like. They were able to try any combination of enrollments, with the agency not changing any of its group programs or its procedures and without making special arrangements to include them.

Based upon this preliminary work, plans were made for a research project in cooperation with Washington University. The Special School District of St. Louis County continued its interest and support and became the official source of referral in the design for a 5 year NIMH grant that was funded in 1965. Since that time 70 additional EMR youngsters have been studied intensively by the EMR project staff.

The complete scope of our study includes both the pilot group of EMR's and the project subjects, a total of 111 individuals who had an accumulated total of 440 placements by late 1968. These group placements occurred over a period of 7 summers and 6 winters with an average of almost 4 placements for each child.

There were only 4 terminations, which we define as agreement by staff and parents to withdraw the child prior to his completion of his first group assignment. Twelve of the original 41 pilot EMR's are still active in agency groups.

Files on the observed behavior of 111 youngsters have been developed and are being continued. This material can be used resourcefully by educators and allied workers. The AAMD Manual and Terminology and Classification, in pointing out the limitations of the Vineland Scale, stressed the use of "all available sources of information regarding the person's everyday behavior."

The multiple disciplines concerned with studying and helping the mentally retarded have all begun to deal with some aspect of adaptive behavior because the major question for most subnormal youngsters is adaptation to the demands of their daily environments. Psychologists have therefore become involved in studies on the reinforcement of coping skills and educators have attacked curriculum problems aimed at sharpening the student's job readiness, while psychiatrists and social workers reassess their casework methods to do more thorough early case findings.

Group service agencies occupy a favorable middle position in the interchange of services for the mentally retarded because the families bring their educable retarded children voluntarily to be exposed to socialization in a supervised setting with great yearning to demonstrate at least one area in which children can function on a par with others.

Group records reveal that the helping process in this setting is specific and practical. Frank's experience is an example. I quote from a group record on a bowling group of 19 preteens among whom Frank and two others were EMR's:

> November: Frank looked awkward but he is hitting the pins. He gets along with the other children. The boys on his team try to help him. In January we read: He kept score this week except when it involved strikes and spares. He asked me before the league started how to score. In March: Frank kept score for the entire period. He writes the numbers down to add them. He is much faster than Joan in writing numbers.

Joan was one of the other EMR's in this group. The leader wrote frequent observations about her, such as:

> December: Joan did not improve her bowling this week. Since verbal explanations hadn't helped her, I decided to bowl with her. I want her to get the feeling of what I wanted her to do--we are meeting this Saturday to bowl by ourselves.

These two selections show the kinds of practical and functional adaptations that normal group environments demand of EMR children.

The literature on working with the parents of retarded children, on foster homes for the retarded, on vocational training, and the like, notwithstanding, only rarely includes reference to practical coping experiences in a normal peer society such as those encountered by Frank and Joan.

Joan had a sister, Ellen, also retarded, who made a statement one year before this bowling record that reveals one of the deep problems of mentally subnormal youngsters, viz, how it feels to be aware of your own mental limitations:

> Ellen was sitting on the sideline so I sat down to talk with her about why she did not participate with the others. Some other girls came over and I tried to get Ellen involved with them even though she was a little reluctant. She had been telling the girls about being in another group, and they questioned me about this, asking "How could Ellen be in the other group and be 11 years old?" With this, Ellen turned and faced me, got very excited, telling me how people say she is retarded and cannot learn as fast as others. She went on and on and on about how everyone thought she was retarded and, therefore, friendships were not as easy for her. It surprised me very much that she was telling me all these things--She then turned around and faced the girls that were standing around her wide-eyed and with their mouths open, and Ellen, with fire in her eyes, said to me, "Now you explain to them." This left me in quite a ticklish situation.

Now if this is an expression of Ellen's own self image, are we not obliged to also regard her as a normal person? Might we not ask ourselves, once again, just what is a normal person? Is Ellen's outburst an example of the little realized fact that large numbers of the educable retarded are "normal" people of low intelligence? As George W. Albee (1968) expressed it last year, this kind of retarded person might "no longer represent a mystery" but, rather, be "viewed as a particular manifestation of the general developmental process (p. 38)." One implication is increased cooperation to assist the Ellens to bridge the gap between their special education classroom, where they receive necessary instruction geared to their developmental needs, and the normal social world that lies beyond the classroom door. We want to encourage the promotion of more normal recreational experiences for more pupils such as Ellen, as well as for others who have learning disabilities. Increasing numbers of workers are realizing that any disability, once diagnosed, is mainly functional, descriptive of only one aspect of the total individual, and that learning disabilities cut across the lines of accepted categories.

Findings of the EMR project regarding the specific ways that the educable retarded have been getting along in normal peer groups are being reported elsewhere by our staff. Suffice it to say here that our data reveal them to be rated on social adjustment more often in the bottom half of ranking lists, but by no means at the bottom of the heap. We would mention here also that analysis of hundreds of critical incidents, with similar implication, reveal the EMR's to be no more related to negative group incidents than their normal peers. We hope ultimately, when our findings are complete, to better clarify the specific meanings of integration, to more closely relate distinguishable, personal skills to educable mentally retarded people's accommodation to normal leisure time pursuits.

The second basic question posed by our agency almost 7 years ago was: What effect might such a program of integrating EMR's have on the agency, its programs, its policies, its membership, and on the community at large? Several measures of the acceptance of integration have been undertaken. The first was an 11 item questionnaire returned by 20 members of our full time staff, including administrators and others who had had little or no direct contact with the retarded children. Responses to the question, "In what ways do you think EMR's are being affected here in the JCCA?" elicited overwhelmingly positive answers alleging derivative benefits such as "gaining confidence," "finding acceptance," and "fun experiences with normal kids." Staff replies to the question of the feasibility of our integration approach by other youth agencies were also positive, but with interesting qualifications such as: "Proceed slowly," "limitations should be made clear," "screen each child before placement," and "have only one EMR in a group." This suggested an awareness of supervisory and organizational limits to this program of integrating educable retarded persons.

A second measure of the effect of integrating EMR's is reflected in the findings from a survey of attitudes of summer camp staff members. For example, 46 out of 60 respondents stated that they would prefer to have a retarded child in their group. A third measure was the project staff's interviews with normal controls and their parents whose names were selected at random from original groups selected by the retarded persons. Over 50 interviews were completed and it was found that the great majority of both children and parents had a positive reaction to the inclusion of the retarded child. Finally, a questionnaire mailed to several hundred family members of the JCCA, not yet completed, shows the same trend--awareness of the staff's interest in helping the handicapped, families' approval, and few expressions of disapproval.

A climate of general acceptance, generated at first by official agency board approval and supported by an active lay committee ever since, helped to set a pattern of approval. At no point has any group or individual contested the advisability of the policy to integrate diagnosed EMR's in normal groups. At no point has the agency itself been threatened by objecting or dissident members. As a matter of fact our current membership questionnaire reflects a sizeable percentage of parent members who reveal a lack of awareness of EMR participation in regular programs.

On the professional level, the EMR project staff has invited educators and social agency personnel to meetings to report its preliminary findings on the participation of the educable retarded. The eager response of professional colleagues attests to the need for additional meetings. The JCCA project staff is increasingly involved in consultations with child guidance clinics on specific cases while also being involved in programs of state and local CEC Chapters and similar groups. A broad recognition of its effort by a wide variety of professional workers in St. Louis County has developed.

In short, membership, professional, and general community responses to this particular experience for EMR's seems to support the original rationale--that it is relevant for community agencies to become involved in training the educable retarded from beyond the classroom door and into the community itself. The role of group service agencies in particular--Boy Scouts, Girl Scouts, local YMCAs and YWCAs, Campfire Girls, and similar organizations can be a strategic one. Their services can be used by special educators because these agencies stand between the family and the school in actively assisting educable retarded persons in social interaction in normal groups. Let us assume that there are gaps in services between professional groups and between schools and agencies in many of our communities. Any gaps in the training of EMR's and in further studies of their particular needs can be bridged. Many voluntary group agencies can be recruited to join in the work, but the vocal, active support by educators is needed. This support can be spelled out to some degree by the St. Louis experience.

The final aspect of this paper concerns the specific relationship that occurred between the St. Louis County Special School District and the JCCA. Original agreements by both parties supporting the research grant invigorated a partnership, and a close working relationship on various levels of responsibility. The district has cooperated with the agency and with its research project in these ways:

1. It arranged for the recruitment of subjects by bringing agency's flyers and re-

gistration information to EMR teachers once each year.

2. It made clinical data available to the social work staff of the agency.

3. The district asked classroom teachers to complete data forms on subjects of the EMR project.

4. It made its staff consultants available for training and orientation sessions of the agency staff.

5. The district provided speakers from its staff at agency sponsored parent meetings.

6. It encouraged and assisted the agency in all phases of data collection.

7. The district has helped to focus, define, and sharpen agency interest in continued followup on its EMR adolescent clients and on those who have completed their schooling.

Continued interest in the training and vocational adjustment of EMR young adults has become a shared interest of the district and of the JCCA. The JCCA staff made global ratings of the general adjustment of the original pilot EMR's when the research project began. Due to the interest of the Special School District job placement staff, the JCCA staff is now able to compare its own earlier ratings with current adjustment reports by vocational counselors. It is better prepared to counsel and advise a growing number of EMR's who are now adult members of the agency, as well as other EMR's who are no longer members but who "drop in" and keep in touch with the agency.

John Kidd (1968) has referred to the unwarranted assumption that there is a terminal plateau of learning at about age 16, a misconception aggravated by compulsory school attendance laws that typically end at age 16. To achieve maximum readiness at later ages and to realize the fuller potential of young people, educators have the responsibility to make it known to all the helping professions that educable retarded persons deserve large amounts of community participation for which the opportunities must be created by people like ourselves. The unknown potential of young deprived ghetto children and of retarded children is being increasingly studied, and with the added support of government funds, scientists are reporting amazing results to conditioned nurture. Earl Schaefer (1969), who views intellectual development as a continuing process, stated recently in reference to one NIMH investigation: "Change in circumstances of even an adult's life and his rate of intellectual growth may very well change." In the same vein he sees retardation in the early years as lost time, not necessarily irreversible damage.

A retarded child's intelligence, just as that of any child, is being viewed as fluid. John Kidd also has questioned the unwarranted assumption that a retarded child's learning is predictable. He has asked: "What if he is placed in a "reassuring but stimulating linguistic environment...and with double or more amounts of time for instruction?" "Frankly," he says, "we do not know. No one seems to have tried to find out." It is with this sense of curiosity that special educators and all interested communal workers should make a combined effort to increase social contact for EMR's in school and out of school in all possible ways.

If we assume that training EMR's to better cope with critical community demands is a major challenge, additional questions for research come to mind. Following are several such questions that go beyond the scope of the St. Louis EMR

Project:

1. What are the expectations of their parents as EMR's grow up--in different areas and between different socioeconomic groups?
2. Is it possible to devise programs whereby normal peers can assist educable retarded persons to develop social competence in one activity or another?
3. Do students of very high intelligence have similar problems of achieving personal and social responsibility as do the educable retarded? Is there a different kind of training problem between these two groups? Are we able to develop controlled studies of this question?
4. Do EMR's move off into their own separate world, segregated clubs and integrated activities, when they outgrow both the youth agencies and the school rooms? How many of them, as individuals, do neither, and live out rather lonely lives instead?

We consider these questions to be part of the implications of our reports and ultimate findings, but also as questions for timely consideration.

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SOME CHARACTERISTICS OF THE PRESCHOOL CHILD TESTING AS EDUCABLE MENTALLY RETARDED WITH IMPLICATIONS FOR EDUCATORS

by

Gladys M. Hillsman

This paper presents a preliminary descriptive study of recorded admission characteristics of 52 children enrolled at the Childhood League Preschool Development Center during the 1967-68 and 1968-69 school years. Twenty-five are girls and 27 are boys. Eight children have advanced beyond the age limits of this program and 44 remain in the school. Children were referred by 26 individuals and agencies. Because of very limited enrollment capacity in proportion to demand, the only applicants accepted are those who cannot be effectively served elsewhere. Several years of collection of admission and discharge characteristics will be needed before any definitive findings can be validated.

Subjective evaluation items were gleaned from admission comments of referring physicians, psychologists, and/or the teachers intake evaluation. Originally, attempts were made to tabulate 22 areas mentioned in individual records. The 10 areas selected are limited to those mentioned by one or more evaluators of each of the children. Items could well be in categories other than those arbitrarily selected by the author.

Because word meanings are not defined it becomes obvious that this is not a rigorous study. It does show which characteristics were considered of enough significance to be mentioned by the evaluators of each child. They also are important to the teachers and the director of the program in planning for the children.

Before proceeding, a brief summary of physical findings other than motoric problems discussed later are in order. For educational purposes, the usual medical diagnosis is not helpful, particularly when 22 children had a diagnosis of mental retardation, etiology unknown. In addition, diagnoses have been changed since admission to the program. Instead of retardation, it may now be a diagnosis of psychiatric problem, specific learning disabilities and/or lack of opportunity to learn. (The latter few have made the most overall progress.)

Helpful findings included information on seizures, vision impairment, severe hearing loss, and varying degrees of dental caries, because all of these were treatable to some degree.

Children ranged in ages from four years, one day to seven years, six months, with a median age of five years, one month. Table 1 shows pupils by age and IQ.

The intelligence and/or the developmental quotient were not found to be useful for classroom placements. The child's overall functioning did not necessarily compare positively with his test taking skills. For example, visualize the following individual children.

1. An unusually handsome five year old boy with an IQ of 86 showed a marked developmental lag in social behavior with stereotype mannerisms and perseveration (both motoric and verbal). He was almost constantly in motion and had episodic explosive behaviors.

2. An attractive girl, tall for her 4 years 8 months, with an IQ of 84, who had a fleeting attention span for most activities was excessively motoric, highly mistrustful and fearful of others, and had a fantastic ability to infuriate all adults. She snatched equipment and toys from shelves and other children, then hoarded them--warding off others with aggressive behavior.

3. An appealing chubby five year old boy had a Gesell development assessment of 70 percent normal, no speech, very poor balance and coordination--seemingly toppled by a breeze. He showed inconsistent shape discrimination, with difficulty in manipulating materials, yet drew a human figure on the chalkboard consistent with his age. Most remarkable is his personality which charms peer and adults alike. Even the least responsive children in his class were aware of the days he was absent and most would greet him either verbally or with a hug on his return. His personality has deprived him of learning experiences--both children and adults vie to do everything for him.

TABLE I

Number of Pupils by Age and IQ
1967-68

Age	Under 54	55-59	60-64	65-69	70-74	75-79	80-84	85 & Over	Nontestable or Inconclusive	Total	Median IQ
4	1	0	5	1	2	5	2	0	6	22	71
5	3	3	6	3	0	0	0	1	3	19	60
6	0	1	3	3	1	1	0	0	1	10	68
7	0	0	0	1	0	0	0	0	0	1	69
Total	4	4	14	8	3	6	2	1	10	52	67

Note: The intelligent quotients and/or developmental quotients are from a multiplicity of tests and testors with varying degrees of experience with the diversities of children in this population.

The overall function and age determines the placement of the child in one of the six classes composed of 6 to 8 children with a teacher and a volunteer for each. Classes are composed of children we hope will provide a mutually beneficial therapeutic and learning milieu. The aggressive child has peers on his physical level so that his "bully" status is somewhat squelched by his peers. More articulate children are combined with those less so. The helpful "open" child is with the fearful, withdrawn child and other related combinations.

Table 2 lists the ten groups of recorded characteristics in the areas of verbal behavior, relationship behavior, play with peers, ability to follow directions, self awareness, motoric activity, attention span, gross motor skills, fine motor skills and shape discrimination.

TABLE 2

Recorded Characteristics for 52 Pupils at Time of Enrollment - 1967-1969

Characteristic	Frequency
Verbal Behavior	
None or noncommunicative	8
Garbled, occasional clear word	8
Echolalic	5
Single words	29
Words and phrases	2
Sentences	5

Numbers do not total 52 because speech may be clear sentences but not used to communicate, i.e., private monologues or echolalia; speech may be too garbled to be usable except for a few words.

Characteristic	Frequency
Relationship Behaviors	
Does not relate	5
Relates to objects only	3
Rarely relates	11
Rejects contact	11
Excessively fearful and/or anxious	23
Does relate in some way to others	26

Numbers do not total 52 because of overlapping behaviors. Rejection is a form of relationship which does indicate an awareness of others.

Characteristic	Frequency
Play With Peers	
None, unproductive, or destructive	8
Solitary	33
Parallel	11
Cooperative	0
Total	52

Ability to Follow Direction

Unaware	5
Unable to interpret speech	1
Able to, but reluctant	19
Understands but resists vigorously	3
Follows directions as understood	24
Total	52

Self Awareness

None	5
Some awareness (neither negative nor positive)	26
Definitely negative	17
Definitely positive	5
Total	52

Motor Activity

Impulsive	27
Excessive	26
Stereotype mannerisms	10
Placid and/or tractable	18
Not remarkable	8

Does not total 52 because of overlapping behaviors.

Attention Span

None or unaware	5
Under 5 minutes	30
5 to 10 minutes	13
Over 10 minutes	4
Total	52

Gross Motor Skills

Very poor balance	3
Poor--overall clumsiness	15
Fair (shuffles, difficulty in body flexion)	18
Good (manages almost everything)	14
Excellent (unusually well coordinated for age)	2
Total	52

Fine Motor Skills

Poor (in strength and dexterity)	20
Fair (can manage some things)	26
Good (more adept than not)	6
Total	52

Shape Discrimination

None demonstrated	5
Poor (inconsistent success, perseveration, etc.)	20
Fair (some consistent success)	22
Good (at level of function)	5
Total	52

Given these tabulations, what type of child could a teacher expect to find in her classroom? A compilation of the items mentioned for 50 percent or more of the children pictures a challenging composite child.

1. His verbal ability primarily ranges from none and/or nonusable speech to single words.
2. His ability to relate shows excessive fearfulness and/or anxiety and he may relate negatively, not at all, or marginally.
3. His peer play is solitary.
4. He is reluctant or unable to follow instructions.
5. He has limited or negative awareness of self.
6. Although 50 percent show motoric behaviors which are primarily easily managed or not remarkable, the overlapping terms, impulsive behavior, stereotype mannerisms, and excessive motoric behaviors are mentioned 63 times. A number of easy going children have episodic explosive behaviors or have primarily stereotype mannerisms.
7. His attention span will be less than 5 minutes.
8. He will demonstrate fair to poor gross motor coordinations.
9. His fine motor coordination will show both muscle weakness and a lack of dexterity.
10. His ability to discriminate shapes will be absent and/or inconsistent and/or perseverative.

In reality, no one child is so constructed but in each class the teacher will be confronted with varying degrees of these behaviors.

Completely misleading, but most typical of our negatively oriented culture, is the absence of notations of consistent clusters of primarily postive behaviors and the assets exhibited by these same children. The records are incomplete.

Implications of Findings

The general philosophic attitudes of the preschool staff must be stated so that the findings can have meaning for others.

Each of our children is first of all, a child and he is unique in his own way because of his wide range of developmental levels. Each has a potential for the utilization of his strengths to partially alleviate his weaknesses and to activate previously unsuspected abilities. All members of his family have had to make adjustments because this child has different patterns and, therefore, all must be involved in his development. To be able to function, a child must find himself a capable person by proving his competencies to himself. We believe that the first step is for the child to learn that he can control himself and his behavior so that he is not a puppet buffeted by his environment. (As noted, 48 of our children had either no self awareness, definitely negative feelings, or only vague awareness of self.)

No one discipline or agency has all the skills required to help our children and their families, hence, we seek assistance of knowledgable people from any agency or discipline in the community. The children move on and the large community must be ready for them. This means staff involvement with the school system at the local and state levels and awareness of state and national legislation.

Very briefly, there are factors that we see as crucial to helping our intensely heterogeneous groups of children.

General Approach

The focus is on instant success as much as possible. No one has failed water play. Clay, sand, brush painting, play dough, and finger painting can be failed by some because the experience is new or there is a family taboo on getting messy. Not discussed in this paper is our weekly water orientation program, which has been the key to beginning socialization for several children.

With a focus on learning instead of teaching, there is freedom within limits. Initially, there is very little structure with emphasis on free choice. The child is to explore, discover, and experiment (even when it means he drinks from various sizes and shapes of containers to see if there is a different taste). He can set his style and pace in his chosen activity. He is physically involved in the learning process. He decides if or with whom he wishes to relate. (One girl went from complete disassociation to relating first with objects, then with the guinea pig, then adults, and then to peers.)

Inappropriate behavior is ignored unless it interferes with the rights of others, is self destructive, or is destructive or property. When such behavior occurs, the child is taught the socially acceptable response. If the child is without speech, he can make his wants known with the assistance of the teacher. He learns that he can make choices in all areas and that behavior has consequences. (Whatever the behavior, the child's feelings are acknowledged and accepted even when the behavior must change.)

Out of bounds behavior has choices, and the last resort is: "You may either do (whatever it is)--or you may go to the "little room."

He decides when he is ready to stay within the limits. For some this may be 30 seconds for others it may be 45 minutes--but the child always decides the time interval.

The "little room" is used as a helping device not as a punitive one. The child learns to set the limits on himself. As proof that it is seen as a helping device, several children consistently say, "I need to go to the little room," or "I need to go sit."

Once a child is comfortable with himself, his attention span increases and he begins to learn from his environment. Basically, he is being encouraged to learn to think.

The second area of focus is speech and language development and is woven through all activities including behavior control. In addition to the usual preschool techniques, we have a speech pathologist on the staff. In the morning she teaches a class of children with major speech and language problems and in the afternoon she works with the other classes. The donation of an auditory trainer has opened another avenue. Some children will sit for an hour as they are involved in the give and take use of this machine. One child, much preoccupied with his stereotype behavior, will forget the mannerisms and listen intently for 20 minutes.

We attribute the successes we have had to the staff attitudes and to what the children teach each other. Everyone is convinced that the children will progress and they do. The enthusiasm of the staff and the way it is shared with parents is basic.

Teachers as People

In this setting we have exceptional teachers. Where possible the teacher also has choices. When the parents bring a child in for his initial interview, the teachers evaluate the children (one interacts and one records). They decide if the child will be accepted and in which of the six classes the child will benefit the most. This includes the teacher's ability to acknowledge that a certain type of child would "get to her." Sometimes we guess wrong. A certain child "bugs" the teacher and/or triggers a whole class, or his progress is at a different rate than anticipated. We provide a plausible explanation to the parents and move the child.

Our children require a teacher who has a broad and deep background in all areas of child growth and development, the flexibility to catch motivation for learning and then exploit it through her creative skills, plus an honest liking for children.

His emotions must be genuine so the child has a role model. He must be free to share his reactions with his coworkers and, where appropriate, with the children. He must recognize that the child with a negative self concept cannot tolerate direct praise and must find other ways to reach him. He must respect the feelings of the "don't touch me" child without feeling rejected. He must feel free to discuss his negative reactions to some children so he will not feel guilty and then overcompensate with inappropriate behavior. If he cannot cope with his own feelings, he is limited in helping the child cope with his. He must be free to tell his coworkers and director of his concerns--both negative and positive.

One method we use, in addition to discussion, is the teachers' self evaluation. The director adds his comments and then discusses it with the teacher. The staff, in turn, jointly evaluates the director and discusses this evaluation with him. When adults are too busy nursing real or imagined ego bruises, the children lose.

Parent Involvement

Parents are partners in this endeavor. First of all, parents are people who have coped with their problems in the only way they know how. They must be respected for what they have accomplished and they must be told what they have accomplished. When they are too overwhelmed to find their own assets, they cannot find them in their children either. Parents must be encouraged to care for themselves so they can care for their children. They must go out together if this is an intact marriage and renew their relationship with each other. Group parent meetings and individual or joint parent counseling are vital. This is specifically true as changes occur, e.g., when the placid child who has been a robot becomes a person, says "no" and demands his rights in the family. This type of behavior is routinely perceived as a disaster. ("He used to be so easy to live with.") Some need more counseling than others to see that this is great progress. The reverse is true, the child who has been racing like mad has set up certain reaction patterns in the family--when the change is sudden no one knows how to react. It is normal in these situations that the parents become lost, confused, angry, upset, or all of these.

Requiring that parents visit the classroom lets them see for themselves how their child is doing. Interestingly, most parents will find another child who is "worse off" in some way than their own.

Once we acknowledged to ourselves that instead of unmotivated parents, there are only professionals without the ingenuity and skills to reach the parents, we have had few that we could not involve to some degree.

In this program, the socioeconomic range reaches from those who are supported by the welfare funds through a range of unskilled, semiskilled, technical, and professional positions, both civilian and military. The education of parents ranges from eighth grade through doctoral degrees.

Sibling Involvement

Parents are asked to get their other children excused to visit his brother or sister's classroom. The siblings have been impressed. As one 11 year old said, "Mary isn't so dumb, she's almost smart." Of all those who visited, there was only one negative reaction, a 16 year old boy who said, "All he does is play."

Preparation of Future Professionals in the Field

The preschool, in addition to involving the community in the education and treatment of the children, has made a vigorous attempt to alert people from various disciplines of their future contributions to the habilitation of our children and others with similar strengths and problems. Ohio State University, Capital University, and Ohio Weslyan University have sent students for field placement and/or observation from the fields of special education, nursery school education, clinical and school psychology, medicine, occupational therapy, and graduate students and pediatric nursing. The state health department screened the children's hearing as a part of their program to train ancillary personnel. As a result of this, at least two students in nursery school education have gone into special education. Because there are too few people prepared to work with multiply handicapped preschool and kindergarten age children, this is one way to alert future professionals to the need in the field.

To those who are concerned about this flow of people through the school, let me say that the children become accustomed to strangers. They greet them and/or ignore them. Even the most easily distracted child soon "forgets" that visitors are present. On one occasion, a child who did not relate consistently with anyone did first "try out" a relationship with a student.

Research Potential

1. This descriptive study indicates that there is a need for a definite evaluation guideline which outlines the strengths and/or assets of a child as well as all of his problems.
2. Children admitted in the future should be evaluated in a uniform way so that there can be a before and after evaluation which covers areas that are meaningful in terms of the future of the child. This will provide a useful method of assessing the work done at the preschool. Since 10 of 52 children were considered nontestable by referring agencies, some measuring device other than the usual psychological test must be used.
3. How do some of these children learn? One child with a lifelong history of not relating to others had word recognition at age five--read sentences. Did

she miss a developmental stage? She obviously has been learning all these years despite contrary observable behavior. What about the child who is not deaf, has no consistent speech and appears to understand only what is shown him, yet his overall responses are inconsistent with such a bleak picture. How do we help him translate sounds he hears into something meaningful?

4. What are the variables in success or failures?

   a. Innate personality of child?

   b. Defects we can't define?

   c. Strengths which must be sought?

   d. Teacher behavior and personality?

   e. Teacher skills and knowledge?

   f. School milieu?

   g. Changes in parent reactions, ranging from simple relief that something is being done to their development of a different pattern of interacting with the child?

   h. Sibling actions and reactions?

   i. The community responses in the child's neighborhood?

   j. What would happen with a program based on Piaget's concepts? How can they be broken down to fit all the variables presented by these children?

   k. What would happen if we could get a few other families to admit nonproblem children into the classes? Would this provide a role model?

   l. Are some of these children normally more motoric? Will they need a public school teacher with a special kind of tolerance for physical activity?

   m. What can we learn that needs to be fed back to the universities for the education of future teachers and members of other disciplines?

   n. A longitudinal followup is needed to learn if children in this program do better than children who do not have such a program.

ABSTRACT

TRAINING TEACHERS FOR EFFECTIVE COMMUNICATION WITH PARENTS

by

L. Gerald Buchan

The purpose of this paper is to delineate and develop more effective modes of communication with undergraduate and graduate students at Idaho State University who plan to enter the teaching field.

The writer has found that the lecturing-reading-regurgitation process is quite ineffective in assisting teachers to more effective communication. The process of role playing-simulation has been shown, however, to be effective in helping students obtain more realistic concepts and understanding of the communication process.

During a 9 week course (Psychology of the Exceptional Individual) role playing-simulation was utilized to illustrate the communication process and videotaping procedure was used with vignette type situations. This was then presented to the entire class at which time students were asked to complete the sequence which was shown via the videotape machine.

A pre- and postevaluation of the student's concept of communication was accomplished with an informal evaluation asking them to state the meaning of communication. Comparison of the student's pre- and postevaluations suggests a trend toward more positive attitudes such as increased listening capabilities and tolerance for differences in individuals.

ABSTRACT

VIDEOTAPE PROGRAMING FOR THE TRAINABLE MENTALLY RETARDED--

AN AID TO THE CLASSROOM TEACHER

by

Jess A. LaPuma

A rationale for the development and production of videotape television programs for viewing by trainable mentally retarded pupils and their use by the classroom teacher was presented along with a rationale stating the importance of television as a tool to the field of education. The following points were further developed:

1. Television is emerging as an effective educational tool.

2. Television has become a preferred medium for children.

3. Very little research in the area of television teaching dealing with mentally retarded has been conducted.

The fact that the classroom teacher of the TMR face the problems of poor attention span, motivation, and retention was noted. With the use of the media of television and videotape, and effective aid by means of programed auditory and visual stimulation conditioned by repetitious viewing of videotapes could be used in the classrooms.

A broadcasting format of educational television for the mentally retarded might not be as effective as one which incorporates the usage of videotape playback recorders in the classrooms. The following conclusions were drawn:

1. Proponents of educational television as is commonly used today in the classroom need to consider changing the system from a strictly broadcast basis to a system of videotape playback in the classroom because of the greater flexibility and greater distribution possibilities which could be derived from the video-

tape playback units and programs.

2. The videotape playback unit and recorder will allow the teacher to show the various programs any time of the day and as many times in the day to assure the repetition needed in teaching the mentally retarded.

3. The inclusion of a curriculum aligned tape library at the teacher's disposal.

4. The simple operation of videotape playback equipment.

That which is involved in producing programed videotaped productions for use by the classroom teacher as conducted by the Missouri State Schools for the Retarded was discussed. The following depicts some of the activities involved in this phase of the project.

1. The setup of a television studio for production and distribution of videotapes.
   a. Production staff.
   b. Equipment.

2. Instructional materials for various programs and productions.
   a. Scripts and their preparation.
   b. Materials for use in reinforcement.
   c. Pre- and posttesting materials.

Examples of videotape productions produced for the pupils enrolled in the Missouri State Schools for the Retarded exemplified programs involving dramatization, musical background, and cartoon characterization. (demonstration)

The results of some of the continuing studies conducted by the Missouri State Schools of the Retarded which involved approximately 1300 pupils were presented. In the greater majority, improvement was indicated.

A curriculum for the mentally retarded involving videotape programing can add a new and exciting dimension to the educational programs for the retarded. With such a system the teacher can have a new aid which will enable her to bring into the classroom concepts which would be difficult for any one individual to relate without the visual and audio stimulation afforded by television. With the aid of videotape programs, concepts can be dramatized and presented in an interesting manner and conducted repetitiously for the pupil's viewing, a technique which is important when working with the trainable mentally retarded.

Making constructive use of the new technology available today is not a difficult task once one realizes that the new technology has a definite place in the educational scheme of a progressive society. It would not seem difficult to be creative in the field of education when science furnishes the technology that educators can capitalize on and the various disciplines can be proud of. With these efforts one can be proud that the pupil is being served to the fullest.

ABSTRACT

WHAT PARENTS EXPECT OF PROFESSIONALS

by

Ernest John Ostrom

What do parents expect of professionals? It could be summarized by the word HELP. The H stands for Honesty and Hope, the E is for Empathy and Excellence, L for Learning, and P for Progress.

Parents:

1. Would like the professional to be honest with them.
2. Would like the professionals to give them hope.
3. Would like help in dealing with the normal child in the family. How do we get them to accept the retarded child as a part of the family?
4. Want the professional to empathize with us. Through this empathy there can be communication between the parents and the professional.
5. Would like to see the professionals who are doing the research and those who are training teachers, develop a curriculum which is meaningful to the retarded child and provide an excellence in education for these children.
6. Want professionals to understand why we are frustrated and angry. It is generally because we have not been given honest answers to our questions.
7. Want professionals to be aware of the research in the field. We want the parents to be given material that is not 10 or 15 years old. It should be current.
8. Would like to see tests that are in keeping with the child's level. It does not make sense to give a verbal test to a child who cannot talk, or a reading test to a child who cannot read.
9. Want the professional to know where the parents can go for help. Too much time and effort is being expended because the professional does not know where help is available for parents and their retarded child.
10. Want professionals to think of the fact that these are children first, and retarded second. It is time these children were treated with the dignity of a human being.
11. Want to see progress in their child, as well as progress in the education of all retarded children.

It will take the effort of the professionals and the parents to provide the eudcation our children should have. Parents must understand the role of the professional and the professional must understand the roles of parents.

PHYSICALLY HANDICAPPED, HOMEBOUND, AND HOSPITALIZED

CASE FINDING AND PLACEMENT OF THE CRIPPLED CHILD

by

Edward Ronayne

Those of us who are concerned with case finding and placement of the crippled child must carefully define that word crippled in terms of 1969 medical accomplishments. From 1935 to 1941, the crippled child was postpolio, osteomyelitis, or a bone TB . In 1969 the crippled child is a spinabifida, has cystic fibrosis, or has any one of several congenital problems.

The second consideration for those of us who are concerned with handicapped children, specifically the crippled child, is a careful analysis of what it is this crippled child needs that can be provided within the framework of a public school education. Does he need special learning tools, modified instructional materials, a unique curriculum, intensified ancillary services, a teacher aide or is his primary need within the realm of logistics?

Before we concern ourselves in depth with case finding and placement, we had better be sure that we agree on the definition of education and that this term is meant to include special education services. It seems to be generally accepted throughout this nation that formal education or the "three r's" is no longer the extent of the role of education. The term education now means that process which addresses itself to the growth and development of the whole child. Therefore, if we are concerned about case finding and placement of the crippled child, we must think in terms of placing him in an educational environment which is certainly not restricted to the formal classroom. Our goal for the crippled child includes the three r's, of course, but we must also assist this population as we do other students, to achieve self realization, human relationships, economic security, and civic responsibility in that order.

Finally, we must analyze carefully those parts of the learning process to which a crippling condition may have relevance. Before the handicapped child or any child learns, four rather specific processes must function on a coordinated interrelated basis. First, the child must be able to receive information. The more methods he has to receive information the better prognosis for a successful learning experience. When we evaluate the crippled child, we must be cognizant of those disabilities which would, in fact, hinder the acquisition of information. The crippled child with a hearing and/or vision defect needs specific consideration and evaluation prior to his placement. Second, the child must be able to perceive. The placement of this child and the development of appropriate educational modifications must be based, in part, on an analysis of his ability to receive information and perceive what he receives. The perceptibility of the handicapped child is a vital component to be considered in placement. Third, after the child receives and perceives, he must be able to conceive. He must be able to form concepts, think, relate, organize, evaluate, and apply information. Experience deprivation resulting from crippling conditions must certainly be noted when evaluating this child in terms of placement. Finally the crippled child, and all children, must be able to give back, react to, or utilize the information he has been receiving, perceiving, and conceiving. This ability to give back has to be coded within his personality and if the crippling condition precludes a normal response, then this too is a vital consideration in the placement within educational programs for our crippled population.

As we concern ourselves with case finding and placement we must realize that there is no single best program for all physically handicapped children. We must utilize every possible resource and these include, but are not limited to, the hospital school, day schools for crippled children, special public school units or classes, and the integration of crippled children into regular classes. In all but the largest school districts, it is impractical to segregate this area of exceptionality. The incidence of children who require this intensive kind of programing is probably not more than .75 of one percent and possibly less than that.

Although the relatively small number of children who need segregation experiences result in a placement problem, educators generally agree that crippled children be kept as close to the mainstream as possible. Physicians approve the hemophilic participating on the track team at the high school level, the severe diabetic can play quarterback at Notre Dame, the cardiac can participate in all but the most rigorous activities if he is assigned to a contemporary building. In other words, if our definition of real education for the crippled child means teaching the child to live with what he has or has not--happily--then we must allow him to achieve this goal in the most normal possible environment.

I have searched the literature and have found no mention of case finding per se. Dr. William Frankenburg is developing a screening device that hopefully will identify early (from infancy to school age) children with a variety of physical handicaps. He is currently standardizing and validating his test. I believe it will have real potential. There are (a) assignment charts, (b) abstraction tests for use with cerebral palsied children, (c) growth and developmental aspects of children in general which can be applied, (d) Gesell Development Schedules relevant to physically handicapped, (e) measurements of morale among handicapped children, (f) deviation factors regarding perception, (g) guidelines for parent attitude development, (h) attainment scales, and (i) motor skill evaluation tools and instruments for assessing, diagnosing, measuring, and recruiting. However, there is apparently no single method suggested in the area of case finding, nor perhaps should there be.

Medical rationale is simply not sufficient to identify and place crippled children. We certainly must know the status of the child's self image, his self concept, and the concept that his parents and siblings have of him. We must know about his understanding of his disability, the extent of his experience deprivation resulting from the disability and a great deal more before placement is implemented.

In my own school district with an enrollment of approximately 12,000 we have made an effort to establish a program for crippled children and have made efforts pertinent to case finding techniques.

First, we surveyed the children receiving home or hospital instruction and noted those among this group who needed long term instructional services. Next, we actually surveyed the 30 plus school buildings and asked that crippled children be identified, who, although they were attending school, might be in need of supportive services, either instructional, medical, or logistical. Next we contacted every agency within the community which had a service role. Finally, we apprised the community of our willingness to attempt to serve crippled children within the framework of our schools. It may be interesting to note that in this case finding effort we received referrals from parents, occupational therapists, physical therapists, physicians, speech correctionists, psychologists, social workers, dentists, ministers, teachers, and representatives of the office of welfare, two universities, an Easter Seal agency, the sheriff's office, the Mental Health Clinic, and the local hospital. In retrospect, I suggest that the only effective case finding technique is a community approach utilizing every agency and professional discipline represented within the community. Appropriate placement of the crippled child can result only from the actual participation of every agency and professional discipline available to the educator.

Many of these children are in contact with various clinics and private agencies long before they are presented for school enrollment. The importance to develop lines for regular communication for exchange of information should be stressed. The schools should have available to them the information regarding the families and what has been done for and with the child prior to the time he becomes of legal school age.

Even though legislation in most states requires that buildings funded totally or partially with public monies be so designed as to accommodate the handicapped population, we must still be concerned with architectural barriers when we place physically handicapped children. All too many of our school buildings date back to the years when aesthetics rather than practical considerations motivated their design and construction. All of us should work toward influencing the design and construction of schools which will accommodate wheelchairs and which include ramps, wide doors, elevators, and all other physical modifications relevant to the crippled population.

Another aspect that might be stressed is the importance of programing at the preschool level. One can anticipate a downward extension of the school's program so that we would be organizing not only the learning experiences for the child at the point where he can be brought to a school building, but the foreseeable future will also call upon us to organize services which would go into the home and provide orientation and guidance to the parents. An increased and improved relationship with the Early Admissions Programs should be affected so that the children who are identified to these programs might be redirected to the kinds of services and classes which their situations require.

Finally, I would suggest to the US Office and to the various state departments that statutes which pertain to funding of special education be modified in terms of case finding and placement of crippled children. Many districts already have a nursing staff which could work with all the resources within the community in an effort to identify crippled children. Social workers could provide therapy and compile pertinent information regarding the child and his family after children are identified and counselors could begin to assist the crippled child in dealing with the realities of his handicap if such services could be reimbursed under special education statutes. In addition, state regulation should allow for the funding of all necessary logistic support. The modification of buses or other vehicles, the salary of aides who might serve incontinent children, and even capital construction or at least capital improvement which would allow us to widen the doors, lower the sinks, and provide handles and racks in the restrooms should be included under state support for special education services.

In my own district, we have identified the children. We have tentatively designated the instruction areas and we have interviewed prospective staff, but we have not cleared some hurtles which would allow us to provide appropriately for the crippled. Our hangup is in the area of logistics. We have not found ways to get crippled children to and from the instructional area nor can we finance the teacher aides and the building modifications.

In conclusion let's remember that the one national resource we can least afford not to fully utilize, is the human resource. Byron, Franklin Roosevelt, Beethoven, Milton, Van Gogh, and a multitude of other handicapped men have made contributions which were significant, and in some instances, vital to our nation and to mankind. Indeed we cannot afford to ignore the infinite involvement and contribution potential of our crippled population.

THE DYING CHILD

by

Ethel M. Leach

A young man stood watching St. Francis of Assisi as he worked in his garden. The young man finally spoke, "If you knew the world would end in 10 minutes what would you do?" St. Francis hesitated only for a moment and then said, "I'd try to finish this row."

Are most of us that prepared to face death for ourselves or our friends, relatives or acquaintances? Are we, as teacher of children who have been diagnosed as having a terminal illness, emotionally ready to face the demands our position places upon us? Let us examine four of the disciplines which play a heavy role in the ill child's life: medicine, psychiatry, religion, and education. Time will not permit looking at other disciplines which may be involved with these children, and time, also, limits the scope of exploration of the four disciplines named.

Medicine

A physician or a team of physicians, usually makes the final diagnosis of a child's illness. The report is made to the parents or guardians. The child is seldom if ever told the facts by the one person who should know the most about it. However, Binger reported in a recent study that his clinic found most children past 4 or 5 years of age will instinctively know that his illness is serious--and often the child will know it is fatal.

Medicine is concerned with the total care of the child--his comfort, treatment, and nursing care. Researchers are tireless in their never ending quest to find the causes and cures for the ills of our children. Weisman (1968) said "One is alive and healthy only until something unforeseen happens." That something unforeseen can be many things--birth defects, metabolic trauma, infectious disease, or accidents. The unforeseen happening can occur at any age but in this paper we are to consider that child who has lived to be schoolaged--over six.

Psychiatry

To the psychiatrist, and at times the psychologist, the mental and emotional health of the child is an area of prime import. Because a terminal illness affects the whole family, in Binger's study of 20 families where one child had leukemia, at least one person from over half the families had sought psychiatric help. Many of the siblings had guilt feelings or they felt great anxiety for their own health. Their normal emotions were disrupted; schoolwork suffered, misunderstandings, financial stress, short tempers, and often family disintegration occurred.

Although the ill child should not be allowed to dominate the emotional climate of the family in order to allay guilt feelings of the parents, psychiatrists and psychologists recommend strong and steady doses of tender loving care. Research has not determined the potency of this care. It is believed that it has often kept the dying child alive long past clinically estimated life expectancy.

Religion

Religion would have us look at death as the ultimate goal of life. The experience of dying presents more immediate concerns: that of pain, helplessness and loneliness. Because we know little of how it feels to die and only a bit more about bereavement we repeatedly turn to folk beliefs, folk values, and folk preconceptions of death which may be current in our culture. Jessica Mitferd's American Way of Death makes us stop and take a realistic look at some of our barbaric and archaic customs as they related to death, and the here-after. As a young mother, I innocently taught my children to fear sleep and death when I nightly had them say the prayer, which some of you were taught at your mother's knee.

Now I lay me down to sleep
I pray, Thee, Lord, my soul to keep
If I SHOULD DIE BEFORE I WAKE
I pray, Thee, Lord, my soul to take.

I dare not dwell on the religious aspects of the dying child. I do feel strongly, however, that it is necessary that we, as teachers, have reached a good measure of maturity, and that we have come to grips with our own feelings about life as well as death before we try to work with children.

Education

In searching through the literature I found one reference to education--when reporting studies of dying children. Let me quote from "Unmasking the Great Impersonator--Cystic Fibrosis":

> If you met Chris on the street you would never suspect that this good looking boy of eight was gravely ill. Watching him swing along with his school books, laughing, shouting, pushing, and being pushed by his classmates, etc. (di Sant'Agnese, 1969).

It is a sad comment that we as educators, have not made our expertise more evident. We know children are happy when learning. We know children are involved with life when there are exciting, new things to explore. Have you had a child in your class who had a terminal illness? What did you do? Do you recognize the techniques used in the following case studies?

Warren. Warren was dying: muscular dystrophy had caused the death of two older brothers--one had lived eleven years, one twelve years. Warren was now twelve and could talk of nothing but his impending death. He kept the entire household attending to his physical needs. He showed no interest in books, art, food, friends, or family. He did watch TV.

Warren lived in a small, rural community. The family was well known; the father was not in the home. The mother worked and tried to keep the family together and comfortable. Warren's teacher tried to continue instructing Warren even though he was seldom in school. At a state teachers meeting Warren's teacher learned that a home-school telephone might be a possibility. With the cooperation of the principal, superintendent, and the school board, a call to the local telephone company soon had a home-school phone installed. A whole new world came to Warren's finger tips. Lessons went on, friendships were strengthened, and Warren became interested in others. He lived and grew in knowledge for two years--at the other end of a telephone line. The teacher saw Warren two days per week--after school in his home. The teacher explained in greater detail anything that had been covered in the classroom that he had failed to grasp over the intercom system. During the home visits Warren could ask about the other students in the class, and he could also talk about his own feelings. Occasionally the teacher would bring other children for a work session in Warren's home. Those were exciting days.

Warren looked forward to reading about himself and the other children in the weekly class news. He loved to read his own contributions which he had dictated to the editor over the home-school phone.

To evaluate precisely the worth of the home phone situation would be impossible. However, Warren and his classmates improved their articulation and communication skills, their sense of sharing, and sense of responsibility to others. The community became more cohesive as it paid half the cost of the home-school phone. Loneliness and self pity were dispelled for Warren. We will never be able to evaluate the total program. We do know that Warren lived two years. Even during his last two weeks of life he insisted that the home-school phone be turned on--he listened to the activities of life in the classroom.

Douglas. Douglas was dying. He had lived ten beautiful, exciting, demanding years as a victim of spina bifida--menengomyelocele. With constant love and care he should have lived many more years. An event by well meaning friends and relatives seemed to put an end to hopes and a desire to live. An itinerant faith healer was in town. With much pomp and ceremony Douglas was taken before the healer in a public meeting--and was not healed. Guilt ridden, discouraged, and a bit rejected by friends and relatives who felt that the incident was unsuccessful because of a lack of cooperation on Douglas' part, Douglas' health seemed to begin to fail rapidly at that point. The death certificate stated kidney malfunction--cause of death. Was it? However, he continued to attend school until uremic poisoning caused him to be hospitalized. When he went to the hospital he insisted upon taking his reading books with him so that he wouldn't get behind the other kids. His teacher visited him daily even when he was in the oxygen tent. The day he died he wanted to read, and hear about his friends at school. Douglas still lives in the hearts of many of the children who were in that class as the boy who loved to read.

Vicki. Vicki was dying. She was approaching her fifteenth birthday. For over a year both her parents knew she had leukemia. She knew she had leukemia. Each tried to keep the fatal news from the other. Vicki's school work suffered. Finally her homebound teacher realized Vicki's need to talk about her illness and opened the door of communication between her parents and Vicki.

Vicki's last six months were gloriously happy. She often confided in her teacher her gratefulness for opening the doors of freer intercourse. When she became emotionally more stable her school work improved, her world of interest broadened. She was able to travel by plane and car for about four months. She wrote friends, she took pictures and wrote articles about her travels, she talked with parents of other known leukemia victims, urging that they let the children know they had a fatal illness.

Was it the therapeutic aspects of education that added to the joy of living--even added time to the child's length of life? I like to think that to be true. Many clinical teams of physicians, psychiatrists, and psychologists are looking to the educator as a member of their team to prescribe the dimension of education to the overall care and treatment of children who come to their attention.

However, teachers who work with these dying children must say with St. Francis, "If the end of the world would come today, I would try to finish this row."

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ABSTRACT

EDUCATIONAL APPRAISAL AND MEANINGFUL INSTRUCTION

by

Jasper Harvey

Too frequently it is assumed that the child who is deviant and who is placed in a class for exceptional children, whatever his disability, has had the appropriate kinds of medical, psychological, social, and educational assessments or appraisals. In many areas of the United States, it is the rule rather than the exception that a child has had no more than cursory medical and psychological appraisal. The direct result is that the receiving teacher must begin to make the social and educational evaluations which will assist him in planning effectively for a given child.

Within the scope of limited time, an attempt will be made to point out the very basic aspects of appraisal which must be accomplished before meaningful instruction may be planned for any child.

THE EDUCATION OF HANDICAPPED CHILDREN IN A MULTI-DISCIPLINE SETTING

by

James W. Briggs

The Glenrose School Hospital

This paper is in essence a description of a practical experiment, still in its early stages in the rehabilitation of handicapped children. Although data have been carefully gathered on a continuing basis from the beginning of the experiment (which is now in its third year) and the data are being processed for computor analysis, it is still too early to present much in the way of validated statements in statistical form. Instead I propose to present a brief outline of how the Glenrose School Hospital was brought into being and how it is organized to carry out its stated purpose of rehabilitating handicapped children. In particular I propose to describe in some detail how the education of these children is carried out.

Historical Background

The school hospital, located in Edmonton, Alberta, Canada, was planned, built, equipped, and staffed entirely at public expense through government agencies. Much preparation went into the planning and initial organization. A comprehensive report on the needs of the handicapped in the province had been commissioned by the Provincial Government and submitted many years previously. Two small pilot projects were carried out prior to the opening of the school hospital: one of these, a center for cerebral palsy children operated for over six years; the other, a three year project, carried on rehabilitation work with children having a variety of other kinds of physical handicaps. Both of these pilot projects involved a multidiscipline approach and included education under the direction of the Edmonton Public School System.

Visits were made to many centers in the United States and Canada where programs similar to that envisaged for the Glenrose School Hospital were already being carried out. These visits were made by architects, administrators, medical personnel, educators, and others who were to have a part in the planning, construction, and organization of the school hospital. What was desired was a rehabilitation center where children who had serious physical or emotional handicaps could come for education and any other treatment required. As a result of this planning and the action that followed, the Glenrose School Hospital was officially opened by the Minister of Health for Alberta in the fall of 1966. There are two units: one with a maximum capacity of 40 for emotionally disturbed children and another with a maximum capacity of around 180 for physically handicapped children.

Organization

The following disciplines operate on a full time basis in the school hospital: physiotherapy, occupational therapy, speech therapy, psychology, psychiatry, social service, medicine (including one staff physician and consultation with any required medical specialist), nursing, and education. It is taken for granted that every child admitted will attend school for as much of the full school day as is consistent with his receiving other required therapeutic treatments. A child who needs twenty-four hour a day nursing care is admitted as an in-patient and lives in very well appointed children's wards. Roughly three-fifths of the children live at home or in foster homes and are brought to school every day by special busses. Most of the children on the emotionally disturbed children's unit are in-patients especially during the early part of their treatment. The children come from all over Alberta and the northwest territories. The majority of the physically handicapped children are admitted as day patients and for those who must be admitted as in-patients every effort is made to prepare them for day patient status as soon as possible.

A child is admitted only after an assessment by every discipline and a team decision to accept him for treatment. After admission he has a full day's program arranged for him which includes schooling appropriate to his needs and any therapies and/or nursing supervision required. A close check is maintained continually on the child's progress through regular interdisciplinary conferences and necessary modifications of treatment and medication are made from time to time. Even after discharge a child's case may be reviewed yearly or more frequently in order to be sure that his needs continue to be met.

The Education Department

Responsibility for education is that of the education department, in point of personnel and time spent with the children, the largest single department in the school hospital. The department consists of well over 30 classrooms, offices, and other areas staffed by teachers and administrators plus clerical staff. The building and equipment are the responsibility of the Hospital Board of Management. The educational services within the school hospital are contracted from the Edmonton Public School Board. The staff and all expendable supplies used in the operation of the school are provided by the school board which is largely reimbursed for this expense by provincial government grants. Teachers and administrators are thus employees of the school board and are a part of the special education staff of the public school system.

Education Provided by the Edmonton Public School System

This latter point should be emphasized because it is felt to be of crucial importance in providing the best possible educational service for these children. Special education is a well organized and well staffed branch of the Edmonton Public School system. There is a director of special education assisted by consultants, school psychologists, educational counselors, remedial specialists, and others. The teaching and educational administration staff of the school hospital enjoy all the advantages that accrue from being part of such a system; for example, excellent recruitment facilities for personnel, good salary scale, security of tenure, good working conditions, and other fringe benefits, and most important of all, free access to all the resources of a large, sophisticated school system. This is a rather unique feature of our organization which I have not found in many other centers in Canada, the United States, or England. Our experience and observations would lead us to believe that such a means of providing education in this kind of setting is the best way to assure maximum effectiveness.

Interdiscipline Cooperation

In spite of the obvious advantages of being part of the public school system, education within the school hospital is simply one discipline working in partnership with many other disciplines toward the total rehabilitation of the handicapped child. It is not sufficient merely to make available to the child education, psysiotherapy, occupational therapy, speech therapy, etc.; it is necessary for educators, physiotherapists, occupational therapists, speech therapists, etc. to work in close cooperation with one another. In a report issued by the World Health Organization in 1967 which summarized the the deliberations of an international conference held in Copenhagen at the end of 1966 on handicapped children this statement appears:

> Throughout the discussions repeated mention was made of the importance of inter-disciplinary cooperation based on that mutual understanding and respect which help each worker to realize that his colleague's work is as important as his own...ultimately the best way of learning to work together is to work together(p. 62).

Later on in the same report this statement appears:

> Diagnosis, assessment, treatment and care must be concerned not only with the disability, but with the whole child in his total environment. The organization of services must be such that all the parts are linked together, that information passes freely from one to another and that the workers at all levels of specialization function and see each other as equal partners in a combined task (p. 66).

Methods of Achieving Interdiscipline Understanding and Cooperation

Such cooperation and communication does not just happen, in fact, its achievement remains a major problem in all parts of the world. This is partly because appropriate organizational procedures must be devised and implemented, partly because so many different professional people must develop new attitudes toward their own work in relation to the work of others, and partly because real communication is far more than simply a willingness to talk to one another. A good starting point, and one that is readily accepted by everyone concerned, is to keep the child the central concern--whatever is done by any discipline is done with the welfare of the child as the sole criterion for decision. Each discipline must respect and fully accept the competence of every other discipline and, while completely free to operate within its own field of professional competence, must be willing to do so as a member of a team.

We have achieved to a remarkable degree this interdisciplinary cooperation in the Glenrose School Hospital. It might be of interest to review some of the ways in which this has been accomplished. It was realized at the outset that much can be achieved by an organizational structure which fosters communication and cooperation while still maintaining the identity and freedom of action of each discipline. In the Glenrose School Hospital each discipline is organized as a department headed by a director and an assistant director. Specialized physical facilities are provided for each department. The director is responsible for the organization and functioning of his department. It is generally agreed that all official contacts among departments are made through the directors. This insures continuity and consistency and helps to maintain an easy flow of information with less likelihood of misunderstandings developing. Especially in matters of policy or where there is any possibility of controversy, it is necessary that interdepartmental contacts be made through the directors. At the same time, it is the duty of the directors to bring together workers in their respective departments whenever this is necessary and to assist in the flow of information or the resolution of difficulties.

The communications aspect of interdisciplinary cooperation is facilitated first of all by the holding of regular interdisciplinary conferences. A very few such meetings may be held for purely administrative purposes; most of them, including all the regular ones, are held for the express purpose of discussing specific children. This is in line with the necessity of keeping the child the center of concern. Some children need to be discussed more frequently than others but care is taken to see that no one child is overlooked for too long a period. A consistent format is followed for all such regular conferences and the same chairman is in charge wherever possible, the clinical director usually fulfilling this function.

Such conferences are time consuming and costly in terms of preparation and the time of professional people, but they are essential. Although it should be possible for anyone who is working with the child to attend, a great deal of the responsibility for attending regular conferences is assumed by directors or assistant directors who schedule time for this purpose. A large number of conferences, held very frequently, can interfere with the time and energy of those who work directly with the children. Whatever can be done by the department administrators to relieve workers from activities which take them away from the children should be done. Administrators, of course, need to provide for dissemination of information as it becomes available and must be able to judge the times and occasions when those who work directly with a child need to be involved directly in conference work.

Some other ways of improving interdisciplinary communication which we have used include guided tours of one another's facilities; lectures by representatives of one discipline to members of another; invitations to lectures, workshops, and seminars sponsored by one discipline to members of other disciplines; the preparation of reports and papers by departments for their own use but freely circulated and if necessary explained to members of other departments. The Copenhagen Conference report suggested that interdiscipline cooperation and communication should"...as far as possible, begin during basic professional training when, for example, medical students and student teachers, or social workers and public health nurses in training, might attend certain lectures or courses of lectures together (p. 63)." In Edmonton many faculties of the University of Alberta are using the Glenrose School Hospital as a laboratory setting providing an opportunity for medical students, special education students, psychiatrists in training, nurses in training, school counselors in training, psychologists, and others to observe the work that is going on not only in their own field of specialization but in other disciplines as well and often to actually participate in the school hospital activities for short periods of time.

Providing for the Child's Education

Now let us look more specifically at the task of carrying out a suitable educational program in a setting where the resources for schooling both in terms of staff and equipment are the best the community can provide and where education is one of several separate disciplines working cooperatively with the same children.

The concept of concern with the whole child takes on added significance in such a setting. One can expect that all aspects of the child's development and rehabilitation, mental, physical, and social, will receive adequate attention. Even so, the educator is faced with a number of problems.

Educational Problems

Often the child's education has been seriously interrupted as a result of illness or accident. Many handicapped children have missed out on a lot of the common, ordinary day to day experiences most normal children have. More often than not disabled children will score below average on standardized tests, especially in reading comprehension even though their technical reading skills may be quite good. (It is thought that poor comprehension likely comes about through paucity of experience.) Often a physical, neurological, or mental handicap interferes directly with school activities. For all of these reasons such children require an extraordinary amount of individual attention from the teacher. Classes must be kept small to make such individual attention a practical possibility.

Teacher Qualifications

Teachers of such children must be flexible, creative, and extremely active. An unusual amount of patience and forbearance is required. Teachers must be willing and able to make many adaptations in course content, classroom and pupil management, teaching methods and types of approach, and often must provide a great variety of learning activities. Considerable ingenuity may be required in devising special procedures to help an individual handicapped child make progress. At the same time an effort must be made to keep classrooms operating in a relatively normal manner. Usually handicapped children do not want to be treated too differently from other children and they want to do as many of the things normal children do as they can. While giving the child all the help he needs the teachers must encourage him to become more and more independent, learning to face his disabilities realistically and with nonanxious acceptance. Possibly more than for most members of his profession, the teacher of the handicapped must develop a habit of continuous self evaluation and objectiveness about his teaching methods. Constant keen observation needs to be backed up by some simple but effective record keeping procedure so that analysis and evaluation can be as objective as possible. Especially for emotionally disturbed children, the teacher must be the organizer, the initiator, and the stimulator with an actor's skill in presenting information and great ingenuity in motivating the youngsters (Huber).

How can teachers be assisted to tackle a job as demanding as the one outlined above? What kind of organization will facilitate the best use of teacher skills? How can the teacher be freed from as much extraneous activity as possible and be given uninterrupted time to carry out his major task--teaching of the children? Without restricting his freedom to establish procedures and classroom routines that are effective for him, how can he be assisted in meeting the extremely challenging demand that he provide a special, tailor made program for each child in the room?

General Organization of Education Department

Children are grouped into classrooms roughly according to age and grade level. Emotionally disturbed children are in a separate unit and for the most part are educated in classrooms in this unit. We have found that many of these children benefit toward the latter part of their stay in the hospital (say 6 to 12 or more months after admission) by being transferred to classrooms on the physically handicapped children's unit. This seems to provide for a more gradual transition from the very small classes in their own unit to classes in a regular school. The physically handicapped children are all cared for in another unit and class groupings are made as stated on the basis of age and grade without regard to the nature of their physical disabilities.

Of necessity class loads are kept light. Six students is ordinarily considered the maximum class load on the emotionally disturbed unit and ten on the physically handicapped unit. There are one or more full classes of every grade from kindergarten through grade twelve. Teachers are assigned according to the age and grade level they prefer to teach. In junior and senior high school a departmentalized organization enables teachers to specialize in their preferred subject area. All teachers are highly qualified in terms of basic teacher training and many have courses in special education in addition to this basic training.

The principal fulfills the usual responsibilities connected with this office and has the status of a department director within the hospital organization with all the responsibilities and privileges which go with this position. The vice principal has no regular class, but in addition to assisting in the administration of a 33 teacher school, is program coordinator for the whole school. As a member of the educational assessment team he assists in the assessment of each child presented to admission. Thus he is one of the first to meet a new student. When new students are admitted they are assigned to a classroom according to age and grade placement and according to available classroom space. All the educational information which has been gathered at this point is made available to the receiving teacher and is discussed with the teacher by the program coordinator. Other information coming from the assessments of other disciplines is also made available to the teacher, especially if it directly effects his handling of the child. The child then remains with the teacher for several weeks until he is able to become acquainted with him and has an opportunity to make his own assessment of the educational needs of the child.

Program Planning

At the end of this orientation period a program planning conference is held with the teacher. Often only the teacher and the program coordinator meet to formulate this program. Frequently, however, other personnel are involved as well. These may include therapists, psychologists, psychiatrists, or social workers who are working with the child. Such people are brought in to contribute information on their work with the child so that the educators can make whatever use they can of this information in planning the educational program. Sometimes remedial specialists and consultants from the public school system are brought in to assist even more directly in the educational planning. It might be mentioned that consultants from other disciplines and even from one's own discipline are used to provide specific information for the program planners who must then decide how to use this information. This point was made well by Dr. Herman Frankel of the University of Oregon in a recent article in the *Journal of Learning Disabilities* who emphasized that information from other disciplines is only useful to the educator if it can be applied in teaching the child and that it is the educator's responsibility to decide how the information will be applied.

The format used in planning and drawing up the program is that developed by Laurence J. Peter and described in his book *Prescriptive Teaching* (1965). The key person in the program planning conference is the classroom teacher. Essentially what emerges is his plan for teaching the child. The other persons are there to assist and advise, but only the teacher who will carry out the actual plan in the classroom is able to make the final decisions about what should be tried. The use of the procedure and format suggested by Peter and the use of the program coordinator as chairman and instigator of the planning conference achieves two main purposes: (a) it assists the teacher to make explicit his conception of the problems connected with teaching the child and his plans for meeting these problems, and (b) it gives a measure of unity to the total educational program of the school which otherwise might tend to operate as a group of independent cells rather than as a unified whole.

In addition, the coordinator, since he works eventually with all the teachers, not only has the opportunity to become well acquainted with all the educational activities that are going on in the school, but is in a position to pass along many new ideas and innovations that he knows are working in other rooms. He thus becomes a very knowledgable idea man able to draw upon his own experience and upon the experience of many other competent people with whom he is working. The teachers know also that there is someone else with whom they can discuss individual cases who will have some fairly intimate knowledge of the situation and to whom they can appeal for assistance of any kind. The coordinator may sometimes be able to give direct assistance himself but if not he is able to arrange for the teacher to consult with appropriate resource people or to find special materials which the teacher needs.

The Program Format or Educational Description

Following Peter's suggestions, the program planning conference begins with a review of the child's background, or to put it in prescriptive teaching terms, a discussion of the problem and situational variables and their interaction. As the actual program is gradually developed, brief succinct statements are written under each of the following headings:

1. Disability--the physical and/or mental condition which is disabling the child.
2. Handicap--the handicaps, especially those relating to the school situation,

from which the child is suffering as a result of his disability.

3. Potential--estimate of intellectual potential usually based on individual intelligence tests such as the Stanford-Binet or Wechsler.

School Variables

1. Consistent approach--Statement of decisions made with respect to the type of approach to the learning situations and classroom procedures which seem most appropriate for this particular child.
2. Teaching methods--Decisions as to specific teaching methods which seem to be indicated in carrying out instruction for this child. Sometimes these are prescriptive if the situation is clear enough to make this possible; sometimes the list of methods is suggestive only.
3. Specific objectives--This is an explicit statement of the objectives it is hoped to reach in a given time (say by the end of the school year) as a result of the implementation of the program of instruction being planned.
4. Ancillary services--A notation is made concerning all the other therapeutic treatments the child is receiving at the time the program is drawn up, together with the nature and objectives of these therapies if these are directly related to the educational situation.
5. Placement--A brief statement of the classroom and teacher to which the child is assigned.
6. Subject matter--An explicit statement of the subject matter planned for use. Although extremely brief, this section really outlines the curriculum which will be used.
7. Instruction materials and special equipment--Particularly if any special materials or equipment will be used, these are listed and described here.

After the planning conference, the coordinator writes up the program on a prepared form from notes he kept during the conference. This rough copy is then submitted to the teacher for checking and confirmation. After this, copies are typed by a school secretary, one for the teacher, one for the program coordinator, one for the principal, and one for the cumulative record folders.

Each program is reviewed at more or less regular intervals spaced a month or two apart. A review may be carried out at the request of a teacher or at the instigation of the program coordinator in the course of his work of general supervision of the total school program. At this time changes may be made if they are called for. Even if no changes are required (and this often happens if the original planning has been sound) these regular reviews serve as a sort of stock taking. It has been found by experience that a program review will often indicate the need for more information from or closer contact with another discipline which is working with the child. This is a good thing as it is serving to pinpoint problems and to stimulate cooperative efforts to meet them.

The ideal situation would likely be to use this procedure for every child in the school. However the amount of time involved really makes this impractical especially at the beginning of a new school year if a large number of new children have been admitted. There are always a certain number of children who do not require any drastic modification of either the regular program or of teaching methods. These may be safely omitted from the program planning conference or at any rate left until all the urgent cases are considered. Again we can properly leave this to the judgment of the classroom teacher. He will be aware of the children in his room who need to have a special program worked out for them. As it turns out there are really not too many children who do not eventually have a special program written for them, and at least all children with major educational problems are covered.

Conclusion

Statistics have not been quoted because it is felt to be a little too early in the experiment for this. Data are being gathered steadily for computer analysis and it is hoped to publish statistical studies later on. However, there are a few mathematical statements that can already be made. For example, regular administration of the Stanford Achievement Tests seems to show that the average gain of the students on the physically handicapped children's unit after one year's instruction is -.7 grades. In view of their handicaps, both physical and educational, this is encouraging. Over the past two and one half years we have enrolled a total of 331 students. Of these 203 are still in the school hospital. Of those discharged 84 can be considered as having been rehabilitated in the sense that they are now attending classes in regular schools in their home community. An additional 14 went to other special schools. More subjectively, we know that for the most part our children are happy and working well and that staff members in all disciplines are encouraged by the positive response to treatments and instruction. In short, we already have good reason to believe that a total attack on the children's needs by a multidiscipline team effort holds excellent promise for successful rehabilitation of these children.

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THE PREGNANT GIRL

by

June P. England

In 1940, 89,000 babies were born out of wedlock. In 1965, there were 291,000 illegitimate births (Arnold, 1969). Initially these girls were from the lower socioeconomic groups usually located in cities. Today the middle class of suburbia is equally affected (Continuing Education Center for Girls). In one suburban community with two teachers of homebound serving 20 girls, only 4 were not pregnant.

Who should provide the leadership in coming to grips with this phenomenon? Three things should be occurring:

1. The provision of all necessary services to the girl.
2. A study of the causes in order to prevent or remediate if possible.
3. Adequate comprehensive followup services.

Item 1--Provision of Necessary Services

First there is the girl (a) who will be a mother in a manner unacceptable to society, (b) whose physical health has bearing on the child as well as herself, (c) whose mental health is crucial to her future, (d) whose family and community relationships are important, (e) whose educational progress and future plans must be considered, and (f) who must consider the future of the baby whose placement must be decided.

There is the baby (a) its physical health is dependent upon the prenatal care of the girl, (b) its mental capability and emotional stability are also in a large degree dependent upon the prenatal attitude and care of the girl, and (c) its placement upon birth will have great significance in its total life.

There is the girl's family (a) and the impact of their mores on their ability to accept and help the girl, and (b) their ability to plan objectively for the future of the girl and the baby.

There is the putative father (a) the affect of this advent on him, (b) the emotional stress he may be experiencing, and (c) his place in the planning for this child whose birth is as much his responsibility as the girl's.

There is the putative father's family (a) if the father is their minor son, what is their responsibility, what are their rights, and (b) should they have a voice in the final planning for the baby. (These considerations are quite apart from any *legal ones*.)

The above mentioned are the readily observable areas of concern. The potential for tangential problems created by this pregnancy is even more frightening. A few come quickly to mind:

1. Having broken with traditional standards for legitimate procreation, will this practice resume after the birth, leading to possible promiscuity and additional illegitimate births?
2. Sexual activity in teenagers with their lack of knowledge of symptoms and necessary treatment leaves them vulnerable to venereal disease at its worst.
3. One half of the known illegitimate pregnancies in one state came to the attention of the physicians after the sixth month. (The numbers never seen by a physician are not known.) This greatly increases the chance for a handicapped child above that of a pregnancy receiving medical attention from its inception (Continuing Education Center for Girls).
4. It is believed the use of drugs by the girl or the putative father can cause damage to the fetus.

5. Self induced abortive attempts as described by some girls can be the cause of physical and mental damage to the fetus.

In the face of these problems positive actions are occurring:

1. There is a growing willingness on the part of the public educators, health, mental health and social service agencies to accept responsibility for continuing the pregnant girls' education and providing services in keeping with their needs.

2. In addition there appears to be the beginning of the end to the traditional head in the sand position relating to social change and adolescent sex life.

3. With the prodding by authorities in sex education and attacks by the news media, some states are passing laws providing for sex education in schools. In addition, many pilot programs are under way involving adults as well as students in cooperation with education, health, mental health, and social service agencies.

4. Education opportunities for the girl are being developed in a variety of ways but each appears to be cognizant of her total needs. These are usually provided to groups in a center away from a public school. One program which seems to have the important components is described.

Continuing Education Center--a Day School Service for Pregnant School Girls

Objectives

1. To provide the girls with continuing education during pregnancy, thereby increasing the likelihood that girls will complete their education following childbirth.

2. To assure the girls of early and continuous prenatal care, thus improving the chances of a healthy outcome of childbirth for both mother and infant.

3. To help the girls solve personal problems that may have led to or been caused by their pregnancy, thus improving their potential for achieving a satisfying, constructive life.

Two other goals that are most difficult to achieve but nevertheless implicit in the program are:

1. Preventing subsequent pregnancies out of wedlock.

2. Helping the girls to establish a stable form of family life.

Philosophy

Educators have a responsibility to provide equal opportunity for all children under all circumstances. Consequently, in this as well as in many communities throughout the country, there is a commitment to offer a comprehensive program in the hope of alleviating three major problems that arise when a young girl becomes pregnant:

1. Such girls generally feel it necessary to leave school and many never return.

Pregnancy is the greatest cause of school dropouts among girls.

2. Many girls do not receive the kind of prenatal care or counseling appropriate to the concerns adolescents have about pregnancy, childbirth, and parenthood.

3. Many pregnant girls have no one to turn to who can help them plan realistically for the future.

Curriculum

The subjects offered each semester are based largely upon the needs of the girls enrolled--business education, English, social studies, mathematics, home economics, science, and languages. The center is connected with a local high school by a school to school telephone. It is used only for those girls who are taking a subject that requires large group interaction and for which there is an insufficient number of students at the center to permit this. Instruction in reproduction, prenatal care, labor, and delivery is furnished by a registered nurse who is a teacher in a nursing school connected with a local hospital. A public health nurse from the local county health department visits the center to give the girls instructions in home safety and information on social diseases. Each girl is required to take a two hour core course entitled family living, which consists of instruction in nutrition, cooking, sewing, personal grooming, family relationships, and personal management. This is taught by two teachers working as a team; one with a background in home economics, and the other with a background in personal management and family living. When a girl has had her baby and must be absent for a period of time, a homebound teacher who works only with the center students helps the girl meet requirements which have been previously outlined and agreed upon as realistic for this particular student.

The school districts have asked that each girl remain at the center during the entire semester in which she delivers the baby. However, she may remain for a complete school year. Experience has proven that this is generally the most advantageous for the student and the home school. The policy is flexible to meet each individual situation. Graduating seniors have a choice of participating in center graduating activities or, if the school permits, she may participate with her class.

Other Agencies Serve the Center

The school social worker interviews each of the girls when she has been referred to the Center and subsequently refers her either to Family Service Center, Michigan Children's Aid, or Catholic Social Services, depending upon her needs and choice. Resource persons such as representatives from adoptive agencies or Family Service Center, Mental Health Board, or Planned Parenthood come to the meetings to assist the girls' families in finding solutions to some of the difficulties that confront them.

The girls are excused from school to keep their appointments with physicians or agencies. All of the girls are referred to the County Health Department Nursing Service and each girl and her baby are followed up by a public health nurse. The Mental Health Board has authorized use of the services of the Community Consultation Center. That staff will perform the following services: (a) crisis intervention, (b) evaluation for psychiatric referral, (c) staff counseling, and (d) group counseling of students within the center.

Location

The center is located in a church facility. It is purposely located in the very center of the city so that there can be easy access to the bus service and to agencies, hospitals, and cultural institutions. The central location provides access to the Art Center, Public Library, County Court House, City Hall, and the County Health Department.

Transportation

The student is expected to provide her own transportation to and from school. The city school system permits students from city schools to ride the municipal buses free of charge to and from school.

Staff

There are five full time, certified teachers, a counselor, a half time social worker, a homebound teacher, a full time secretary, and a director.

Program Funding

The funding for the program is entirely under the special education department of the state and local educational systems. Each of the teachers is certified as a homebound teacher and funds are derived from state reimbursement for homebound teaching and from the local Intermediate School District budget for Special Education.

Item 2--Study of Causes

The study of the whole problem seeking some plausible avenues for prevention and/or remediation requires careful consideration.

There are many educators, religious and other community leaders throughout the country, who believe that recognizing the reality of the changed adolescent behavior and employing any of the programs is tantamount to accepting and perpetuating an immoral way of life.

The writer does not propose to infringe upon religious or ethnic mores, and is not able to draw sociological conclusions or make predictions pertaining to change. However, here are a few facts:

1. Federal statistics indicate there will be an annual increase of 30,000 pregnant teenagers in the next decade--simply because there will be more teenagers in the population (Michigan Youth Commission, 1968).

2. Maternity homes in this country are equipped to handle less than 10 percent of the girls needing placement.

3. Some regular school programs are so unrewarding as to cause girls to seek a second pregnancy in order to be placed in a meaningful learning situation, i.e., "I'm pregnant now, can I come back to your school?" This question was posed to the director of a program for pregnant school girls (Herzog, 1967).

4. Mother-daughter and father-daughter relationships are so deteriorated or so superficial as to be nonexistent, i.e., the same director referred to above has the daughter of a psychologist in the program. This girl states, "I was perfectly raised in accordance with my father's professional training--boy, did I

fix him!"

Item 3--Followup Services

The surface has been scratched in the other areas but little has been accomplished in this one. Counseling of the girl, the putative father, and the family with the provision of someone to turn to at any time is one need. Provision of a school program which is realistically oriented to the needs of the students is another need. The list of things which could be done is lengthy.

What will be? Who in the established educational, religious or community hierarchy will be willing to fulfill this responsibility? The time is past for seeking a scapegoat.

Since public schools are the one community agent available to and supported by all, it is understandable that other agencies and the populace look to them for leadership in this critical area. It is hoped that the public schools will step up to this responsibility and that they will provide the leadership to work with all appropriate community agencies. While the techniques, emphases, and direction may not be clear at this time, they can be determined in process. Each community has unique characteristics and strengths which will support the necessary services and education. The leadership must communicate the far reaching implications of this complex phenomenon. Its immeasurable potential, as previously set forth, must be realistically viewed.

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APPLICATION OF THE ITPA FOR CHILDREN WITH LEARNING DISABILITIES

by

Judith Weinthaler

A child with a specific learning disability has a learning profile of assets and deficits--strengths in some types of tasks, weaknesses in others. The goal of diagnosis is to draw this learning profile and ascertain the strengths and weaknesses so that from this diagnosis an individualized remedial program may be planned and geared to his specific needs. In order to adequately assess the areas of relative abilities, we must systematically analyze the tasks presented to the child according to specified variables, such as the following six:

1. Level of the task according to a hierarchy of learning experiences:

- **a. Sensation--most concrete, earliest, basic level of functioning**
- **b. Perception**
- **c. Memory**
- **d. Symbolization**
- **e. Conceptualization--most abstract, highest level of functioning**

2. The modality of reception: Information may be received through one or more of the following channels:

- **a. Auditory**
- **b. Visual**
- **c. Tactile**

3. The modality of expression:

- **a. Auditory-oral (phonemes, words, environmental sounds, etc.)**
- **b. Motor-tactile-kinesthetic (gesture, pointing, marking, matching, drawing, writing, etc.)**

4. The different types of psycholinguistic processes, which are reception, association, or expression

5. The number of modalities involved in the Reception-Association-Expression sequence of a task. For example:

One modality: Aural-Oral--Listening and speaking
Two modalities: Aural-Motor--Listening and writing

6. The content of the task: This variable may be broken down into two components:

- **a. Verbal-Nonverbal content: A task may be verbal or nonverbal in content, the terms being defined as follows: verbal--having to do with language and verbal communication as opposed to pictures, gestures, facial communication, e.g., phonemes, letters, words both oral and printed, involving both the auditory and visual modalities; and nonverbal--not dealing with language, defined as a verbal symbol system, but with other means of com-**

munication, e.g., pictures, gestures, objects, environmental sounds. The word "cat" printed or head is being considered as verbal task content, a picture or the real animal is being termed nonverbal task content. (The above clarification is important as the term "verbal" is used in a somewhat different sense by the authors of the ITPA.

b. Social-Nonsocial content: social--meaningful, a part of the environment with which one interacts (environmental sounds, pictures); nonsocial--nonmeaningful (pure tones, nonsense figures, nonsense syllables or words).

I have attempted to analyze the Illinois Test of Psycholinguistic Abilities according to these six variables but will limit my remarks to the sixth variable o task content, since the ITPA does not stress this component in its model. Based on this analysis several questions should be raised:

1. Can we predict school achievement which is primarily verbal and social in content, from certain nonverbal-nonsocial subtests on the ITPA?
2. Can we predict performance on verbal tasks from tasks of a nonverbal nature?
3. Can we generalize from nonverbal behavior to verbal behavior, and vice versa?
4. Does a child with a specific learning disability necessarily generalize automatically and with facility from one area to the other?
5. What are the implications of this for both diagnosis and remediation?

Questions of this sort must be asked because, as research is showing, there is a difficulty in, or lack of, carryover or generalization between verbal and nonverbal tasks by many children with learning disabilities. Some children do have difficulty coping with both verbal and nonverbal tasks on all or come of the levels of learning (perception, memory, symbolization, conceptualization), but just because a child shows a deficit in one area, either verbal or nonverbal, does not necessarily mean he will have difficulty in the other. The same is true of the social-nonsocial distinction. A child with a learning disability is generally able to perform better with meaningful, social experiences and materials as opposed to nonsense figures and words, but this is not true of all children with learning disabilities. Given a child's inability to perform adequately on one or more of these types of tasks, one cannot generalize this inability to any of the other types of tasks with accuracy and certainty. For example, one child may be able to discriminate animal sounds but not pure tones or phonemes. Another child may be able to discriminate pure tones but not environmental sounds or phonemes.

Since the goal of diagnosis is remediation, we must specify the exact type of difficulty a child is having, including verbal-nonverbal, social-nonsocial variables, so that the remediation is conducted in the appropriate area. In looking carefully at the subtests of the ITPA in terms of this variable of task content, we see that we cannot determine this exact and full diagnosis from this test alone. To avoid overgeneralization, and to draw a complete profile according to all variables, the subtests should be supplemented with other psychological and/or critical observations.

The following subtests and children's scores will serve as illustration of the inability to generalize from one specific subtest to the general category of classification, especially in relation to academic performance.

If the Auditory Reception and Visual Reception subtests are to be compared as to channel of reception, then presumably all other variables should be held content. However, the Auditory Reception test is verbal in content, and the Visual Reception test is nonverbal-social. Both yield valuable information but they are not necessarily comparable in terms of an assessment of a child's relative strengths for reception through the auditory versus the visual modality. We are varying both the channel of input and task content.

The Visual Association subtest is nonverbal, and the Auditory Association subtest, on the other hand, is verbal. Many children score very well on the Visual Association subtest and yet when given a silent reading analogies test (comparable in content to the Auditory Association subtest) they do poorly even though they are able to decode the word. However, they must do this decoding auditorily in order to gain meaning from the printed symbol because they are deficient in visual association.

Another subtest, which is nonverbal is Manual Expression. The Verbal Expression subtest, being designed to assess the child's ability to express himself vocally, through the auditory modality, is verbal in task content. If a child performs better in Manual Expression can we necessarily conclude his motor channel for encoding or expression is more intact than his auditory? We might also conclude it was the verbal aspect of the vocal encoding causing his difficulty and that he would have more trouble with motor encoding if we reversed the content of the tasks from Motor nonverbal encoding and Auditory verbal encoding and asked the child to write or copy words (motor verbal encoding) and make appropriate environmental sounds when shown a picture (auditory nonverbal social encoding), showing it was task content and not the modality that was the critical variable. From the Manual Expression subtest we can determine if a child can gesture and express himself symbolically through the motor channel, but we cannot generalize to his ability to express himself through the motor channel in terms of written language, a verbal symbol system.

The Visual Memory subtest, using geometric designs, is both nonverbal and nonsocial (nonmeaningful) in content and therefore tests only one aspect of the general category of visual memory ability. For example, a child, age [illegible], obtained a standard score of [illegible] on this subtest, a psycholinguistic age of [illegible], and was able to sequence up to six figures correctly. However, based on informal work with comparable tasks using letters instead of designs, he was able to sequence only three letters correctly. This indicates that even though the test score was high in one aspect of visual memory, we should not automatically generalize to other aspects of visual memory.

Another child, age [illegible], was able to sequence five designs correctly on the ITPA subtest and yet when the content was social, meaningful pictures, he could sequence seven pictures correctly. However, he was able to remember only two letters in their proper sequence. For this child the tasks became increasingly difficult as we changed the task content from pictures, to designs, to letters, and yet from the test score we could not have determined this discrepancy in his performance.

The Auditory Memory subtest is nonverbal in nature, repeating a sequence of digits. A child, age [illegible], obtained the following scores on the visual and auditory memory subtests:

Visual Memory	Standard Score: [illegible]	Age: [illegible]
Auditory Memory	Standard Score: [illegible]	Age: [illegible]

These standard scores were not significantly lower than his general level of functioning as determined by the mean standard score, although his composite psycholinguistic age was approximately 3 years below his chronological age and mental age. If we were to commit the error of overgeneralization, we might erroneously conclude that there was no discrepancy between his visual sequential memory and that auditory sequential memory, both standard scores being 31, and that both auditory and visual memory were below chronological and mental ages. However, when these same skills were tested using different task content we saw that there was a tremendous discrepancy between auditory and visual memory, and that both are not well below CA and MA. On the Detroit Test of Learning Abilities (tested at age 10-0) this child performed as follows when compared to the ITPA:

Auditory memory for unrelated words	Age:	4-3 years
Auditory memory for related words (sentence repetition)		5-6
Compared to the ITPA memory for digits		6-10

In other words, his auditory memory skills improved slightly as we changed the content of the task, his best performance being on nonverbal digits (ITPA--age 6-10), his poorest on unrelated words (Detroit--age 4-3), verbal but with relatively little meaning. He scored as follows on the visual memory subtests on the Detroit Test:

Visual memory for objects (SV-2)	Age:	10-1
Visual memory for letters		9-8
Compared to the ITPA memory for nonmeaningful figures		7-3

So from these tests we see his auditory memory for verbal content (words) was at approximately the 5 year level, and that his visual memory for verbal content was at or above the 9 1/2 year level.

While we must be cautious in comparing age scores from different tests, the important thing to note is the approximately 5 year discrepancy in performance on auditory and visual subtests on the Detroit when verbal content was used in the tasks (you will recall there was essentially no discrepancy between visual and auditory memory subtests on the ITPA using nonverbal content). These scores and the discrepancy have also been substantiated through observation and work in remedial sessions over the past year.

From the one visual memory subtest on the ITPA, it might have been judged that this boy's visual memory was well below age level and not significantly discrepant with his auditory memory ability. However, controlling for task content we see that he performed much lower on visual memory for designs (ITPA) than for letters and pictures (Detroit), the latter Detroit tests being more meaningful than designs. We also see that his auditory memory for verbal content (Detroit) was poorer than for digits (ITPA), and that both auditory verbal subtests (Detroit) were significantly below his visual memory ability (Detroit). It follows logically that remediation has been programed to capitalize on his visual strengths, a conclusion that would not have been self evident had we looked only at one test (ITPA), pointing up the importance of including the variable of task content in an evaluation in order to determine discrepancies such as these in performance.

The sound blending subtest includes both real words and nonsense syllables as stimuli and, considering this sub-test as being composed of two tasks, there is a total of 13 tasks in the ITPA. Eight of the 13 tasks consist of nonverbal reception or input, and 5 of the 13 consist of nonverbal expression or output. What is the significance of this type of investigation in terms of the interpretation of a profile of a child failing in the visual verbal and auditory verbal school environment?

It indicates that caution be exercised when interpreting the scores in relation to academic verbal performance, both auditory and visual, for school age children. Whether the task involves verbal or nonverbal, social or nonsocial content appears to be an important variable in the learning profiles of many children with specific learning disabilities. The ITPA is a very useful instrument for evaluation of learning disabilities if used as part of a total diagnostic battery which investigates other aspects, particularly task content, of the broad categories evaluated in the ITPA. In summary, if a child fails in a particular task we can classify his failure in many broader categories depending upon which variable of the task we choose to use: level of the task (sensation to conceptualization), modality of reception, association or expression, type of psycholinguistic process, or the content of the task. Classification of failure must be more specific rather than general in order to apply appropriate remedial techniques.

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APPLICATIONS OF PSYCHOEDUCATIONAL EVALUATION

by

Anne L. Langstaff

A second grader once informed me that education is "how kids learn stuff." This parsimonious definition is very satisfying because it contains all the essential elements—a who, a what, and a process; it also helps us to identify a critical problem in special education today. Psychologists usually know a lot about children, and something about learning; teachers generally have an abundant knowledge of the content of the curriculum. The problem is one of communicating, integrating, and utilizing these three sources of information in educational planning for the exceptional child.

In experimental studies of children with learning problems, their diagnosis, and management, we read of teachers and psychologists who function together as a complementary pair of learning specialists. In real life situations we find teachers referring children to the school psychologist because of suspected learning and behavior disorders; we find psychologists responding by providing the teacher with an overwhelming set of terms such as dyslexia, dysgraphia, and dyscalculia to describe what the teacher has already observed: namely, that the child in question experiences great difficulty in tasks which require him to read, write, and do arithmetic. The psychologist may also go on to explain what may have caused these deviations in the child's learning, and the extent to which his problems inhibit his satisfactory academic progress. Out of this knowledge the teacher can at least find reasons or excuses which justify why the child has not responded to her teaching approach, but she would have to read very closely "between the lines" to discover how she might modify her approach or adapt traditional materials in order to effectively teach the child. When such a process is operative, little change results for the child, and teachers become too eager to jump on the current psychological "bandwagon" (and learning disabilities may be one) to explain away the children who present a challenge to their teaching skill, while psychologists are guilty of merely elaborating on the problem which the teacher has used as her basis for referral of the child.

It is abundantly clear to all of us that teachers and psychologists must search together for new avenues of communication and patterns of interaction if we are to be successful in planning effective instructional programs for the special child.

Corey (1967) has stated that instruction is an empirical process, and as such is made more effective by taking consequences into account. In order to meaningfully consider the consequences of instruction, prior planning is essential. The model which we at the Instructional Materials Center have developed for effective educational planning has three focal points: the child, the psychologist, and the teacher. We visualize the relationship of these three people as interrelated loops in an information and feedback system which is continuous, ongoing and self perpetuating through all levels and stages of the educative process. At various points in the process the teacher interacts with the child, the teacher with the psychologist, the psychologist with the child, and again the teacher and the psychologist come together to discuss the next approach the teacher may try with the child. Effective educational planning is thus seen to be a continual recycling through various input and output channels where check points are specified and the alternatives which lead to adaptation and correction of the process are built into the system. Effective educational planning depends on three kinds of information:

1. All we know about the child.

2. All we know about the subject matter or behavior which the child is to learn.

3. And all we know about methods and materials which will help the child to learn the desired behavior or subject matter content.

Psychoeducational Evaluation

It is through the continuous application of psychoeducational evaluation that we gather and interpret information about the child for whom we are planning. The term psychoeducational" serves to define the dimensions across which we will be describing the child; we are concerned with evaluating the child's developmental status and structure as a human person as well as his educational progress and pattern as a learner.

The process of evaluation focuses on change and is to be understood as the antithesis of measurement which is concerned with stability. Both the evaluation and the measurement methods rely on the use of tests; however, the evaluation approach is one of testing for change as it occurs over time, whereas in measurement the purpose of testing is to provide a quantitative description of the individual as he exists at a particular moment. Evaluation thus provides us with some information as to the long term picture for the individual; measurement restricts us to a "time slice."

In special education we are typically interested in the behavior of individual children, and often more concerned about the quality than the quantity of their performance. Since the educationally handicapped child is characterized by his variation in performance level across a variety of factors, our goal is to compare his level and pattern of functioning in one area with his own performance in another area rather than to rank him against the achievement of his peer group. We are therefore dependent to a large extent upon systematic observation and recording of the child's typical behavior in the multitude of diverse situations which arise within the home and school environments. The teacher is in a good position to observe the child's behavior principally because she sees more of it than does the psychologist and, in many instances, the parent. The teacher can contribute to the initial and early identification of deviant learning patterns among the children she teaches. She can also gather very specific information about the child's functioning in the school situation. For example, the teacher may observe that a child can operate productively only when he is under her direct supervision; she may note whether the child takes the opportunities provided him to actively explore his environment, and whether he is capable of using language to monitor and control his actions. In short, the teacher can identify the behaviors which the child needs to learn and also which ones are already included in his repertoire. The essential point to be recognized is that the teacher is able to observe the child over a period of time, and thus can detect abrupt or gradual shifts in his pattern of behavior. Without firsthand observational data from the teacher, the psychologist's interpretation of test results becomes merely a series of educated guesses and her recommendations only an idealized list of suggestions unrelated to the reality of the classroom situation.

The psychologist's role in psychoeducational evaluation is to assist the teacher in planning an instructional sequence for the child which will develop his abilities and help him to overcome, or compensate for, his disabilities. The standardized psychological test situation traditionally provides the context within which the psychologist observes and studies the child's behavior. In order to tap a broad range of functions, a variety of instruments are generally used in evaluating the child with learning disabilities. This procedure permits the psychologist to analyze discrepancies among scores and to make hypotheses regarding the causation of the child's learning problems on such an analysis. A more productive method of utilizing the information obtained from a battery of psychological tests is to group the various tests and subtests along the ability and performance dimensions most significant for school learning. Figure 1 provides an example.

The psychologist can then state what behavior the child has acquired and what specific skills he must learn. The psychologist is primarily interested in studying the child's approach to new learning tasks, his reaction in the face of difficulty, and the extent to which he has developed efficiency and flexibility in problem solving situations. Thus, the abilities listed are more important than the particular tests used to assess them. Undoubtedly several other areas of functioning might be, and often should be, considered; social and personality development, for example, are important. The psychologist should, however, guard against "information overload," to borrow a phrase from McLuhan. While the amount of information we can gather on a child is more or less infinite, not all of it falls within the scope of what is directly relevant to the teacher.

Conclusion

When psychological test data are gathered in this way and interpreted in

FIG. 1. Psychoeducational evaluation.

Ability	Subtests which provide information
1. Conceptual	WISC (Arithmetic, Similarities, Information); ITPA (Auditory-Vocal Association)
2. Visual Perception	WISC (Picture Arrangement, Picture Completion, Block Design, Object Assembly, Mazes); Frostig Test; ITPA (Visual-Motor Association)
3. Auditory Percpetion	Wepman Test of Auditory Discrimination; ITPA (Auditory Decoding)
4. Language	
a) Receptive	Peabody Picture Vocabulary Test; ITPA (Visual Decoding)
b) Expressive	WISC (Information, Similarities, Vocabulary, Comprehension); ITPA (Vocal Encoding, Auditory-Vocal Automatic)
c) Associative	WISC (Information, Similarities); ITPA (Auditory-Vocal Association)
5. Memory	
a) Immediate	WISC (Digit Span); Frostig; ITPA (Auditory-Vocal Sequential, Visual-Motor Sequencing)
b) Remote	WISC (Information, Similarities, Vocabulary)
6. Motor	WISC (Coding, Mazes); Frostig; ITPA (Motor-Encoding, Visual-Motor Sequencing)
7. Organization and Efficiency	WISC (Picture Arrangement, Mazes); ITPA (Visual-Motor Sequencing)

light of the teacher's observations and all of the other available information about the child, the psychologist is ready to write a meaningful report to the teacher which will aid the teacher in planning purposeful classroom learning experiences for the child.

Tests are useful not so much because they yield scores and measures as because they permit us to systematically study the way a child operates as a person and as a learner. They help us to judge what educational goals may reasonably be set for the child, how to plan and pace the learning experiences which will help the child reach these goals, and what methods and materials will help the child to learn most efficiently.

The psychologist should meet, then, with the teacher to discuss her findings and together they should specify a list of recommendations for the child which the teacher can then use in planning. Recommendations should not be regarded as final, but only tentative. Feedback and followup are essential.

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ABSTRACT

A COMPARISON OF THE LEARNING CHARACTERISTICS OF HYPERACTIVE AND HYPOACTIVE CHILDREN WITH RELATED CENTRAL NERVOUS SYSTEM DYSFUNCTIONS

by

Maxine F. Gates

This study has attempted to relate the learning characteristics of elementary school age children placed in classes for the neurologically handicapped to clusters of observed behaviors. The behaviors were defined as hyperactive and hypoactive. One group of children exhibiting extreme hyperactive behaviors and one group of children exhibiting extreme hypoactive behaviors were identified by means of special class teacher ratings on a behavior rating scale. An itme analysis of the rating scale determined the reliability coefficient for hyperactive items to be .88, while the coefficient for hypoactive behaviors was .82. Construct validity was also demonstrated.

The performance of the two selected groups was compared on tasks primarily in the visual and auditory channels of learning. The relationship between performance at several levels in the visual and auditory channels of learning and the developmental level of concept formation was determined. Instruments utilized in this study were the Bender Visual Motor Gestalt, Wepman Auditory Discrimination Test, selected subtests of the Illinois Test of Psycholinguistic Abilities, and the Vygotsky Block Test of Concept Development.

Additional variables considered were: (a) the influence of years in special class on test performance, (b) the relationship between group membership and medication, (c) the relationship between group membership and EEG status, and (d) the relationship between IQ and the developmental level of concept formation.

The major findings of the study indicated that the hyperactive group was deficient in the visual channel of learning, while the hypoactive group demonstrated strength in the visual modality. Although significant F ratios were not obtained, cell means suggested that the hypoactive group tended to be deficient in the auditory channel of learning when compared to the hyperactive group. Both groups were equally deficient in developmental level of concept formation.

Additional findings indicated that hypoactive children had significantly greater number of positive neurological findings than the hyperactive group. No differences were demonstrated in group membership and incidence of taking medication. No relationship between IQ and developmental level of concept formation was found. Years in special class d[illegible] not appear to be influential on test per-

formance.

ABSTRACT

A COOPERATIVE PRIVATE AND PUBLIC SCHOOL PROGRAM FOR CHILDREN WITH LEARNING DISABILITIES

by

Marianne Frostig

Since 1962, the Los Angeles Unified School District and the Marianne Frostig Center of Educational Therapy have conducted a cooperative educational program for junior and senior high school children with learning disabilities. This program enables the adolescent to remain in the public school for part of his educational program and to maintain contact with his peer groups and to also receive the specialized remedial and special ability training provided at the Frostig Center.

The students attend the public school in the morning and take three or four nonacademic subjects. During the afternoon, from 1:00 to 4:00 p.m., they attend the Frostig Center and receive special ability training, remedial instruction in basic skill subjects, and instruction in the academic curriculum requirements for their respective grade level. At the end of the semester, the Frostig Center sends to the public school the curriculum areas covered and the grades received by the student. This is recorded along with the public school grades and counts toward graduation from the public school.

The students usually begin by taking all of their academic program at the Center. As they improve they take an increasing amount of academic work in the public school. The goal of the program is to enable the student to return to a fulltime public school program.

In addition to the above, a supplementary program has been initiated this year in which a group of adolescents who are taking a complete public school program attend the Frostig Center for supportive educational assistance from 3:30 to 5:00 p.m. Monday through Thursday.

FACTORS IN SEVERE READING DISABILITY: THE PSYCHOLOGICAL TEST CORRELATES

by

Gilbert R. Gredler

Statement of the Problem

There have been increasing interest and concern within the past several years about the child with severe reading disability. Several investigators have studied this area and come up with diverse findings. The aim of this paper is to review pertinent material on severe reading disability in children, with special attention given to findings from various psychological tests.

Particular attention will be given to the importance of perceptual factors in the development of adequate reading ability and disability. We are interested in the child who shows extreme difficulty in learning how to read for whom the usual remedial methods have generally been unsuccessful.

Before beginning to analyze the psychological test correlates a frame of reference needs to be established which will aid in the interpretation of the psychological test results.

Opposing Points of View in the Reading Field

In describing children with severe reading disability medical literature is replete with such terms as congenital work blindness, specific language disability, constitutional dyslexia, specific reading disability, dyslexia, etc. Psychological and educational literature in turn uses such terms as slow learner, emotionally distrubed, immaturity, etc.

Malmquist (1960) was forthright in putting the issue thus:

> In our opinion it's not possible to differentiate from a population of children a specific and well-defined group of poor readers, who can then be classified as suffering from 'congenital work blindness,' as medical research presumes can be done. For such a sharply delineated and clearly discernible group does not exist. On the contrary, the graduation from a very good reader to a very poor reader has proved to be relatively continuous.

On the other hand, Critchley (1966), speaking for the medical profession, said:

> ...within the last three decades or so a totally different orientation (concerning reading disability) has appeared on the scene to complicate the issue. Stemming from the obiter dictum of a certain educational psychologist, authoritative in his own realm though deplorably ignorant of the workings of the nervous system, an entirely different notion grew up with disastrous repercussions upon the affected children and also upon paediatric neurology. Like something out of early ecclesiastical history, an odd heresy appeared, that within the community there exists a variegated group of poor readers..(In addition) these paediatric psychologists alleged (that these children were) clever by emotionally disturbed youngsters who could not or would not apply themselves to the task of interpreting verbal symbols. This latter class was usually regarded as being victimized by circumstances and the teachers and others were ready to dart upon such factors as broken homes, drunken or unsympathetic fathers, shrewish or wanton mothers, intersibling jealousy, teacher-pupil hostility, and so on and so forth, as being all-important.

In a more pungent manner, Wall (Reid, 1968) stated: "The word 'dyslexia' seems to be a jargon at its worse'...It means bad reading, and nothing is added but its Greek form...."

These quotations give us some flavor as to the strong feelings present among the various individuals who work in the area of reading disability. As has been stated, severe reading disability has been attributed to the following factors at one time or another: emotional maladjustment, hereditary factors, congenital defects, minimal brain damage, developmental lag, and various environmental factors. Reviewing the work of the proponents of various theories of etiology could be an interesting sociological exercise in the conflicts of various professional groups and the biases produced by the different kinds of training programs. What is important is that all professional areas (education, psychiatry, psychology, and sociology) have contributed worthwhile ideas as to factors involved in reading disability. It is unfortunate that a number of contributors have felt that in order to gain acceptance of their ideas they must at the same time denigrate the ideas from other disciplines.

While it would also be interesting to analyze the competing ideas from a frame of reference emphasizing such factors as professional jealousy and hostility, this is not the main intent of this paper.

Definitions of Severe Reading Disability

To begin with we need an adequate definition of reading disability. Part of the difficulty in working in this area is due to conflicting ideas as to what constitutes a disability. Kirk (1966) stated that all too often reading disability is confused with minor forms of poor reading. He mentions that some children are retarded in reading because of environmental or instructional factors but nothing "abnormal" is found within the child. Kirk would classify such retardation as falling under the label corrective reading. He goes on to state that "the child with a true reading disability is one who is diagnosed as having a deficit in the development of psychological characteristics that require remediation." Kirk stated that he prefers to categorize such children as those with psychological developmental deficits instead of using the words "dyslexia," "specific reading disability," etc.

While Kirk makes an important distinction between corrective reading cases which only require correctional forms of instruction in the classroom versus remediation outside the classroom, many researchers have found this phrasing too nebulous and would add other qualifying phrases to their definition of reading disability.

Malmquist (1960) was quite precise in his definition of reading disability. He stated that children in his study were classified into three groups, as follows:

1. Poor readers were those who scored below 1 standard deviation on the standardized reading tests used in his research.

2. Medium readers fell between - 1 and +1 standard deviation on the reading tests.

3. Good readers obtained scores on the reading tests which placed them beyond 1 standard deviation on those tests.

In her study of children (ages 7-0 to 10-0) with reading problems, Kass (1966) chose subjects who were retarded in reading as shown by a battery of diagnostic reading tests. Specific criteria were as follows: 2nd grade 1/2 year retarded; 3rd grade 1 1/2 years; 4th grade 2 1/2 years.

Rabinovitch defined reading retardation as a "significant discrepancy between actual reading level and expected reading level for performance mental age."

He considered that in children up to 10 years of age, one year of retardation is significant, while 2 years of retardation would be significant for those beyond 10 years of age. It is abious that some of the discrepancy in research reports on reading disability is due in part to the fact that the various reading disability groups under investigation do not all have the same parameters.

We also need to look at Hermann's (Critchley, 1964) definition of reading disability. His definition is similar to Kirk's when he wrote that it "is a defective capacity for acquiring, at the normal time, a proficiency in reading and writing corresponding to average performance." However, Hermann went on to add that the "deficiency is dependent upon constitutional factors (heredity), is often accompanied by difficulties with other symbols (numbers, musical notation, etc) and it exists in the absence of intellectual defect or of defects of the sense organs...."

Note that Hermann's definition of reading disability emphasizes the constitutional aspect of the disability. This brings us back full circle to a consideration of what etiological factors are important.

It is hoped that the writer will not be accused of a soft headed eclecticism in saying that the etiological factors are multitudinous. To concede that neurological or familial factors may be important does not lessen the importance of the part that emotional factors may play in the occurrence of severe reading disability. In addition to looking closely at the variety of factors that may be important, we also need to ask ourselves how beliefs about etiology or reading disturbance can help or hinder the subsequent diagnostic and remedial process.

Is it true, as Clements (1962) stated, that clinicians are overstating their case? For example, he said:

> In the majority of present day training centers and institutions charged with teaching our future clinicians regarding maladjusted children, most of the emphasis is given to one side of the story only - the psychogenic side. The course material is steeped in repressed hostility, oedipal conflict, repressed sexuality, and the like. These are presented as being the major causes of deviant behavior, with only casual reference to the spectrum of organic factors which are primary to all learning and behavior. It is very like a child's game of make believe and we are playing like nothing new has been learned about human behavior over the past fifty years.

If, for example, the result of such beliefs focuses only on what are considered perturbed parental-child relationships when in reality the child has a real perceptual deficit which needs to be planned for in a remedial program, then obviously we are not providing an adequate diagnostic and remedial program for the child.

What we find is that adherents to the different schools of thought concerning reading disability all emphasize the negative consequences of believing in the theories of the opposition. For example, Malmquist (1960) believes that congenital work blindness is a "fatal term" leading to the conclusion that not much improvement can be expected in the child's reading. Clements believes that attributing learning disabilities of children almost exclusively to the interrelationships between parent and child create a number of "misunderstood" children.

McCarthy (1967) said: "We can't wait 50 years for the neurologists and psychologists to tell us why. But what is more important to those of us who are teachers is to teach these kids as much as we can teach and-more important-as much as they can learn." In opposition to this point of view Reid (1968) said: "It might even be more true to say that educators have not concerned themselves sufficiently with etiology, in that they have sometimes put together for remedial purposes children who were retarded for a variety of reasons and who perhaps required very different forms of help." Reid feels that such a course of action has possibly resulted in obscuring important distinctions.

Reid also feels that if the individual who is in charge of remediation does not retain a definite interest in the possible etiological factors involved, he really becomes nothing more than a technician carrying out remedial exercises. She also mentions that the remedial worker has to deal with emotional reactions as they evidence themselves in the child and his parents; therefore, an understanding of causes is an important part in reducing anxiety.

In describing Frostig's ideas, Work and Haldane (1966) stated that Frostig advocates an approach in which the perceptual handicap is identified and singled out, and the necessary remedial work is begun all without ferreting out etiology of the handicaps. In commenting on this point of view they say:

> This violates general concepts of consideration of pure knowledge but it may be empirically worthwhile in the therapeutic approach. As long as an individual child is to be treated with a defined approach and given special treatment geared to his present symptoms, the cause, nature, and name of the conditions may be irrelevant.
>
> *However*, if it is found that a similar clinical picture can result from different conditions and *if* further treatment depends upon thos initial conditions, the semantic problem becomes a more practical one. It is equally obvious that to consider *prevention* a more clear etiological and developmental picture is necessary. (Underlining by writer)

Many in the special education field tend to reject all speculation as to etiology and state that more emphasis should be spent defining the areas of deficit with concurrent suggestions for remediation. Those in favor of the programing approach, however, have tended to neglect the emotional climate of the classroom, the school, and specifically the attitudes of the teacher and how these may affect the learning process.

The importance of teacher expectancy and positive attitudes concerning special programs in effect are well documented. The most recent such investigation has been Rosenthal's study (Rosenthal & Jacobson, 1968) in which he studied the attitudes of teachers toward disadvantaged children. By creating an environment whereby teachers were led to believe that certain students were of superior ability and school personnel could expect superior performance from them, it was found that the designated children did grow intellectually and were perceived by their teachers as more positive personalities. It would be interesting to do a similar study using groups of children classified as "learning disability" cases.

It is the contention of the writer that the remedial and programing emphasis has been frequently overemphasized to the exclusion of looking at the attitude matrix of school personnel charged with working with children in various remediation programs.

We now need to turn toward a definition of reading disability which attempts to relate possible "other causes" in a way so as to enhance clarity and avoid confusion in this field.

A Modern Definition of Severe Reading Disability

A definition of reading disability which makes an attempt to resolve some of the differing points of view within the field comes from Rabinovitch (1959). His classification is threefold, as he postulates existence of primary and secondary reading retardation and reading retardation associated with brain injury.

Specifically he describes primary reading retardation as a condition where learning to read is impaired but there is no definite evidence as to brain damage. Rabinovitch explains that there is a "disturbed pattern of neurologic organization."

In secondary reading retardation there is no question as to the necessary capacity to learn but this capacity is affected adversely by factors exogenous to the child's neurologic organization. Thus the child's reading retardation would be considered due to such emotional conditions as anxiety, depression, negativism, or limited school opportunity.

The third type of reading retardation is retardation which is associated with brain injury. Here is where difficulty in reading is due to brain damage reflected in definite deficits in the neurological examination.

Acceptance of this definition of reading disability has important ramifications for those engaged in pointing out actual factors involved in reading disability. The writer, in his former position as a director of psychological services and presently as a trainer of school psychologists in a university setting, has found that such a definition as Rabinovitch's helps to broaden the perspective of the school psychologist in understanding the breadth and complexity of reading disability.

Rabinovitch (1968) recently restated his classification of reading retardation, including only two main categories:

In primary reading retardation, which he now calls developmental dyslexia, there is a definitive neurologic dysfunction but no actual signs of brain damage.

In the second category, Rabinovitch states that reading retardation is secondary to "other encephalopathy" by which he means that the reading retardation is secondary, or reactive, to other problems. Thus there may be evidence of brain damage with difficulty on the part of the child in dealing with symbols. Or there may be impairment of concentration and impulse control to such an extent as to impair reading skills. Also included in this category of reading retardation is disability secondary to emotional disturbance and/or "opportunity factors." Here would be classified those children whose lack of experiental background has affected the development of reading skill, i.e., the "culturally disadvantaged" child.

While it is helpful to have an organized and coherent way of looking at reading disabilities we must at the same time raise the question of how well the children who have reading disabilities fit these diagnostic categories.

Rabinovitch conceded that "in my own work I am often obliged to diagnose secondary reading retardation with a touch of the primary syndrome." DeVault and Stewart (n.d.), in their analysis of 36 children with severe reading disability, stated that:

5

> several children were given two primary diagnoses, and there were many who seemed to have a combination of primary and secondary factors, the latter including emotional difficulties reactive to the learning problem or one of the other factors, and the verbal-motor, language and perceptual deficits resulting from one or the other of the primary factors.

A neurologist, Whitsell (1965), while accepting Rabinovitch's categories, stated, that in his cases of primary reading disability the neurologic findings "have ranged from isolated minimal perceptual defects in children with otherwise superior endowment to indications of more diffuse neurologic dysfunction barely acceptable as 'subclinical.'"

Jampolsky (1965), in referring to Rabinovitch's statement about possible overlapping of characteristics between the primary and secondary groups, stated that there may be even more overlapping than was first suggested. He went on to say that too much emphasis has been put on an either or approach--an approach stating either the primacy of organic factors or the primacy of psychological factors. Jampolsky would prefer to discuss the child with severe reading disability from the point of view of where he falls on a continuum with varying degrees of emotional and/or organic factors being involved.

If we can state that the child with reading disability will present a complicated diagnostic picture, we then can legitimately ask about the various characteristics, symptoms, deficits, etc., that might be present.

The Role of Visual Perception in Reading and Reading Disability

When we speak of factors involved in severe reading disability, primary attention is usually given to the importance of the perceptual process, particularly visual perception. Therefore, it is necessary to adequately define this term and indicate the relationship of visual perception to adequate achievement in reading and reading disability.

De Hirsch (1957) mentioned that the young child must show adequate perceptual development or the letters, words, and phrases will remain undifferentiated and diffuse. She went on to say that spatial relationships are important for the child when reading has to cope with a pattern which is laid out in space. Another aspect of perceptual development is figure-ground relationships. To read successfully the child must be able to adequately differentiate the letters (figures) from the page (background). Gofman (1966) described the role of visual perception in reading when she mentioned that a child learning to read must be able to "perceive small differences in two-dimensional visual symbols; orient himself in space, be aware of small changes in position, and have an awareness of left-right direction of symbol sequences." Also he must "have the necessary motor coordination to reproduce these symbols sequences on paper, and have the ability to integrate visual, auditory, and tactile-kinesthetic sequences."

It would appear then that we should expect disturbances of some aspect of visual perceptual development in children with severe reading disability. Jastak (1965) also gave prime importance to the role of visual perception in reading when he described the reading process. He said that learning to read is a process that involves translating a series of visual motor symbols into oral sounds. Jastak also stated that the letters that the child is required to perceive can only be processed accurately if attention is given to their space or directional value. He held that children with severe reading disability have failed to develop the proper directional clues which are necessary in learning to read. Thus "when the development of directional differentiation is blocked, reading disability results." Jastak speculated that "children with reading disability may be normal in all respects except the acquisition of symbols based on directional clues." Translating this into test performance would mean that such children would perform more poorly on such tests as the Minnesota Percepto-Diagnostic Test which is scored as to degree of rotation of the geometric figure .

It is obvious that Jastak gave primary importance to defective visual motor development in reading disability. However, Rabinovitch and Fuller would disagree in part. The former held that visual recognition and discrimination tends to be normal but that the letter forms and the various letter combinations cannot be organized into a meaningful whole.

Fuller (1963) stated that on a test of rotation "the Minnesota Percepto-Diagnostic Test will differentiate the secondary and organic types of reading retardation from the primary because distrubance in visual-perception and orientation are related to reading impairment in the first two, but not in the last, mentioned."

In his original monograph on reading retardation published in 1956, Rabinovitch discussed some of the characteristics of primary reading disability. He said that directional (left-right) confusion is frequently found which would tie in with Jastak's ideas of the importance of this factor. However, Bender questioned the dichotomous classification of primary/secondary; she doubted that a meaningful differentiation between primary and secondary can be made. She felt that the difference between primary and secondary is merely the difference between severe reading disability and moderate reading retardation. It is interesting to note that in Rabinovitch's (1956) original study the primary reading group was defined as absence of history or brain damage, lack of evidence in the routine neurological, but the evidence of abnormalities in an "expanded" neurological. Rabinovitch said that the presence of these neurological findings is what distinguishes the primary from the secondary group. He believed that the primary cases reflect a "developmental discrepancy rather than an acquired brain injury."

Fuller defined primary reading retardation as the impairment of the capacity to learn to read without specific evidence of brain damage from the history or neurological.

Kolson and Kaluger (1966) attempted to classify all reading disability cases under the rubrics of a twofold classification scheme: primary and secondary. They defined primary reading disability as a "congenital reading disability having a specific syndrome. It is characterized by the presence to some degree of dyslexia, dysgraphia, dyscalculia, right-left disorientation, and agnosia." However, using the word dyslexia in this context confuses the issue, for others speak of severe reading disability as developmental dyslexia.

It would appear that the diagnostic category of primary reading disability is somewhat nebulous in regards to its specific characteristics. Fuller deemphasized the role of perceptual impairment in primary type children and instead stresses that the difficulty is perceptual-conceptual. Others such as DeHirsch, Silver, and Hagin stress the perceptual aspect of reading disability.

It should be obvious from the foregoing discussion that what appear as characteristics of severe reading disability will depend in part on how the population to be studies is chosen and how they are measured. In connection with the diagnostic entity of "primary reading disability" there needs to be further standardization of what constitutes the specific criteria. Fuller's group of 42 children reported on in 1963 constituted the main sample that has been reported on in the literature. While this specific group of children showed little or no perceptual disability as measured by the lack of rotation of the MPD figures it might be more feasible to consider a whole gamut of behavioral variables and attempt to specifically ascertain the pattern of disability that is involved.

In order to provide further clarification of what characteristics accompany severe reading disability or dyslexia, we need to consider what important processes are involved, attempt to build instruments to assess such processes, and then see what shows up in groups of children with severe reading disability and those who are "normal."

In measuring visual perceptual development we first need to ask what are the meaningful components of successful performance in this area. Factors affecting the performance of the child on a perceptual test can be affected by (a) motor proficiency, (b) matching or discriminative ability, or (c) integrative ability.

Some psychologists object to the use of the Bender as an instrument of perceptual development because they feel there is such a mixture of processes involved that no meaningful statement can be made about the child's performance.

Beery (1967) aptly described the various aspects of visual motor functioning. In his research he mentioned how he measured the various components. Specifically in one study children were asked to (a) match reproductions with the original geometric stimulus (a visual perception task), (b) trace geometric figures (a motoric task), and (c) copy geometric figures (a task involving integration of visual motor stimuli).

In his study with children between the ages of 5 to 15 the following results were obtained:

1. Tasks measuring visual motor integration correlated highly with visual perception tasks and with motor proficiency tasks (.72-.76).

2. Tasks measuring visual perception and motor competence correlated in the range of .60.

3. A rank order of difficulty of performance on the various tasks was as follows: (a) an individual who did well on one task tended to do well on the other two tasks; and (b) the overall difficulty of the three tasks was different with motor proficiency tasks being easiest, visual perception tasks coming next and visual motor integration tasks being the most difficult.

Weiner (1968) in his discussion of the Chicago Test of Visual Discrimination made similar points, stating that the Chicago test emphasizes the ability to discriminate visual forms and assesses the memory factor while a test like the Bender or Beery-Butenika reflects performance of a more complicated nature--the integration of both the visual perceptual factor and the motor factor. While Weiner stated that many other ability factors must be present for the child to successfully learn to read, he also stated that adequate visual perception functioning is a necessary base for learning.

Benton (1962) has given us an able summary of recent work in the relationship of visual perception development and reading. He felt that there is a relationship between visual form perception and reading disability in young children but that a deficiency in visual form perception is not an important part of severe reading disability or developmental dyslexia. Benton went on to say that to him the research is contradictory but it does appear that "inferior form perception, visuomotor skill and directional sense is associated with reading retardation in younger school children." He made the important statement that "a certain level of visual discriminative capacity is obviously a necessary precondition for learning to read, and there is a variation in the rate of development of these visuoperceptive skills in the early years of life."

Benton also stated that some older dyslexics do not perform well on "higher level right-left orientation tasks" and suggested that the older dyslexic child may show disturbed form perception and directional sense when the tasks require "verbal mediation."

Characteristics of Severe Reading Disability

It is evident from what has been said so far that a number of variables are involved in developmental dyslexia or severe reading disability. Sabatino (1968) emphasized looking at the child's information processing behaviors. His research subjects were boys ranging from 6-4 to 12-12 referred to a clinic for learning disabilities. The subjects were also screened to exclude any individuals with hearing loss, chronic illness, family pathology, and emotional disturbance. Under these conditions he found four categories of importance:

1. A component reflecting the importance of discrimination, recognition, memory and recognition functions of auditory perception and of auditory visual integration in academic achievement.

2. A component reflecting the ability to associate and mediate language concepts (aspects of intelligence).

3. A visual motor perceptual factor.

4. A component dealing with the ability to sequence "central language association."

In other words the subjects showed deficits in verbal associations, understanding word meanings, and concepts, and expressive speech.

It should be noted that all 11 WISC subtests contributed to the four principal components obtained. This certainly has implications for the school psychologist in writing his report stating specific psychological and educational deficits observed in cases of learning disability.

Klapper (1966) has aptly described some of the important psychoeducational aspects of reading disabilities. She considered that the main characteristics of the child with severe reading disability center around the inadequate processing of sensory information. Mention is made of impaired functioning in three areas: (a) the inadequate processing of sensory stimuli in one channel, (b) impaired integration of information coming in from two or more sensory channels, and (c) deficient cognitive functioning which in turn would hamper the child in the use of "spatial, directional, or temporal information." She put great emphasis on the (a) coordination of visual and kinesthetic cues, (b) auditory-kinesthetic integration, (c) difficulty in the orientation and position of verbal symbols, and (d) existence of right-left disorientation.

Klapper also gave us some common sense admonitions concerning remediation when she stated that there is no scientific basis for giving preference on one remedial approach over another in working with the dyslexic child. She emphasized that all approaches have several features in common: an individual remedial program, separate from the regular classroom, and a trained teacher with confidence, motivation, and commitment.

Klapper agreed with Benton when he said that dyslexia is not primarily a disorder of visual perception of shapes (being able to recognize and match such correctly). Instead the important aspect is that the perceptual process is disturbed when "the dyslexic is confronted with spatially or temporally distributed visual stimuli and arrangement in a sequence is required." Klapper also emphasized the impaired coordination and integration of "multi-modal sensory information." Klapper would say that the forms on the Bender are perceived correctly but the dyslexic cannot copy them accurately. Goins, however, would claim that there was a direct relationship between poor visual form perception (matching shapes), poor directional orientation, and reading disability.

Lovell (1963), in his research comparing backward readers with normal readers matched as to CA (mean 9.8 years), IQ (mean 103), sex, and social class, found that his backward readers performed more poorly on a test of rotation. While his subjects tended to reproduce the abstract designs correctly, they copied them in a "misorientated" position (i.e., showed increased rotation). Lovell's hypothesis was that the increased rotation effect was due to "disturbance of visual input caused by brain dysfunction." Whether or not we wish to accept such performance as proof of brain dysfunction or brain injury, Lovell felt that there is some cortical or subcortical dysfunction present in these backward readers which disturbs the visual input and in turn results in limited progress in reading.

Klapper also put in a plug in defense of being concerned with etiology and causal factors in general when: "Increased knowledge and understanding of the distrubed processes underlying reading disability should further the development of effective training programs and techniques." That this will be a difficult task can be seen by looking at the work of Lachmann (1960) in his studies of various groups of malfunctioning children.

Lachmann investigated perceptual motor development in children ranging in age from 8-9 to 11-11 and who were members of one of the following subgroups: (a) retarded in reading but or normal intelligence, (b) emotionally disturbed but of normal intelligence and normal reading ability, and (c) normal group, with no record of diagnosis of, or treatment because of, emotional difficulties. Lachmann used the Bender as a measure of perceptual motor functioning. He used his own scoring system which antedated the Koppitz method of scoring; therefore, his results are not completely comparable to later studies involving the use of the Bender.

Lachmann scored the Benders for the following types of distortions: angulation, rotation, primitivation, separation, and slant. He found that the above mentioned distortions distinguished quite adequately the children retarded in reading from the normal subjects. A difference was also noted when the emotionally disturbed normal readers were compared with the readint disability children. Once again, the children retarded in reading performed more poorly. However, the difference fell just below the significance level of .05 (P = .07).

It would be well to quote Lackmann on his conclusions. He stated:

> [This] suggests that though reading retardation may well reflect immaturity in perceptual-motor development, (the) developmental hypothesis cannot be used to account in full for the retardation. Emotionally

> disturbed, normal readers offered these distortions too frequently to permit their exclusive association to reading retardation.

The age of the subjects used in this study should also be noted. Lachmann found definite differences in all subgroups, with more maturity of function in the older children of each subgroup. This raises the question of how much greater the difference might have been with the inclusion of younger children (i.e., 6 to 8 years). It is also important to note Bond and Tinker's (1967) findings that the correlation between mental age and reading achievement becomes higher as pupils progress through grades 1 to 4. The meaning of this kind of relationship is that obviously there are several other factors involved in learning to read successfully. And it would appear that one of these other factors is adequate perceptual motor or visual perceptual performance.

Another investigator who has contributed valuable information concerning specific psychological variables linked with reading disabilities is Rubin (1964), who questioned the overemphasis on intrapsychic pathology as a causal factor in reading disability. He felt that what should also be looked at is the adequacy of the child's development in the cognitive, perceptual, and motor areas as he attempts to cope with his school environment.

In one study Rubin (1964) found a lack of correspondence between traditional diagnostic categories ("anxious," "immature," "brain damaged") and dysfunction scores of children in these groups on various perceptual and neurological measures (Bender, Frostig, EEG). Instead what stood out was the fact that many children in each category showed cognitive and perceptual deficits. Labeling the children just as "brain damaged" or "emotionally disturbed" contributed little to understanding their learning difficulties.

Rubin went on to suggest that the existence of such perceptual and neurological dysfunctions increases the child's vulnerability to stress. Since the child could not perform successfully on many school tasks because of such deficit levels, Rubin postulated that secondary emotional disturbances would also result.

Rubin also compared the EEG findings of these three groups of children (ancious, immature, and brain damaged). While 32 percent of the brain damaged children showed abnormal EEG's, 42 percent of the immature also showed such findings and 33 percent of the anxiety group.

In a later work, Rubin (1968) studies the performance of emotionally disturbed children on a battery of 35 tests which measured 9 cognitive motor areas (visual, auditory, tactile, and kinesthetic perception; verbal and nonverbal integration; orientation in time, space , and size; fine motor control; gross motor coordination). He found two distinct subgroups within the total group of maladjusted children. One group called the high dysfunction subgroup showed definite deficits in the cognitive perceptual motor area. Rubin categorized this group as composed of children whose emotional maladjustment is secondary to the problems they have in meeting or coping with the demands of the school environment. The other group of maladjusted children had low dysfunction scores. Rubin stated that this group does not have deficits in perceptual motor integration and orientation areas. He considered that these children's maladjustment is primary to disturbed interpersonal relationships.

Rubin also compared the high and low dysfunction groups of these emotionally disturbed children as to achievement. He found a significant difference between the two groups with the high dysfunction group all below expectancy in achievement.

The implications of this research are several. First, the use of traditional diagnostic categories in describing children who have reading and/or learning disabilities lacks a degree of precision that is necessary in understanding how the child is performing in his school environment. Specifically categorizing children as "brain damaged" does little to aid us in delineating the difficulties a child may have in coping with various school tasks.

Second, this research also suggests that academic retardation is more severe in those emotionally disturbed children who have greater cognitive perceptual motor deficits. Therefore it would appear imperative that we attempt to add to our examination of the child with reading disability diagnostic tests that will give us a meaningful picture of the child's specific strengths and deficits in these areas.

In attempting to tease out other important attributes that contribute to reading disability we should look at a study by Kagan. Kagan (1965) investigated the factor colled reflection-impulsivity in children from grades 1 and 2. His hypothesis was that children who were impulsive (defined by fast response time and high error score on design matching tests) would make more recognition errors in reading words than children with longer "decision" times and low error scores (defined as "reflective" children).

Kagan discussed the implications of his findings for school personnel, noting that in one study an R of .70 was obtained between first grade children's Benders and fast response times on a design matching test. He suggests that poor Benders on children with reading problems may be due to the fact that they are impulsive children, not necessarily because they are "brain damaged."

It is obvious that this finding has definite implications for those studying perceptual development in children with severe reading disability. It suggests that we must investigate further conditions of administration of the Bender to control for the impulsivity of the child. Also it suggests that we need to look further at the emotional adjustment of the "impulsive" versus "reflective" children. Can we link the impulsive factor to a more general adjustment pattern of immaturity, dependence, and anxiety? Are we teasing out a specific personality trait which not only has general implications for the administration of various tests but also for remediation efforts in the classroom? Will we find a linkage between impulsivity of response and neurological status of the child?

Boder (1968), a pediatrician, suggested another kind of analysis which is worthy of note. She attempted to classify dyslexic children on the basis of their reading-spelling patterns. Boder suggested that there may be three different subgroups of dyslexics.

Group I children show a deficit in symbol-sound integration and difficulty in developing phonetic skills. They can be called "auditory dyslexics." These children have no word attack skills. Group II children show a deficit in establishing visual gestalts of letters. They might be called "visual dyslexics" or "letter blind." They show little visual memory for words. Group III children show the deficits of both Groups I and II. This is the "hard core" dyslexic child. He cannot read by sight or by ear. He also shows severe visuospatial difficulties.

In her survey Boder reported the following percentages for the three groups based on the following initial criteria: all children of normal intelligence; all in third grade or beyond; 2 years or more retarded on a test of oral work recognition

(WRA) and the clinic's informal word recognition inventory. In the sample of 61, 57 of the children were boys and 4 were girls. She found that 61 percent fell into Group I; 15 percent into Group II, and 16 percent into Group III; 8 percent could not be given a specific diagnosis.

The implications of Boder's study are several. First we see that percentage-wise the largest number of dyslexic children fell into the group that had auditory not visual perceptual deficiencies. Given the accuracy of her sampling tecnhiques and the validity of her test measures this of course has obvious implications for the school psychologist in adminis tration of the diagnostic examination and in planning remediation. More attention will need to be given to adequately appraising the auditory perceptual development of retarded readers. It should be noted, however, that one-third of her group also had marked visual perceptual problems.

Boder also made an important point when she said that all too often dyslexic children are studies as if they were a homogeneous group when in fact they are definitely a heterogeneous group.

Boder feels that her grouping pattern helps lay a firm basis for providing an effective remediation program. Note that her suggestion is similar to those who are proponents of the use of the ITPA to work out a remediation program.

The whole field of remediation suffers as does much of the field of general psychological and educational research from a lack of replication studies. A worthwhile project would be for others to classify groups of children with severe reading disability along the lines that Boder suggests. Will we find the same three patterns? Additionally, it would be most interesting to see how these groups of children classified as to their patterns of reading and spelling would perform on the various subtests of the ITPA. Will we find distinctly different profiles or will all three goups have some similar deficiencies or deficits? It would also be important to relate Boder's three groups of dyslexic children to the patterns and deficits that might be found on the neurologic examination.

It is also worthwhile to note Boder's comments on the etiology of what she calls developmental dyslexia. Her feeling is that there is always a neurologic basis underlying dyslexia. She also says that it is most often due to a familial genetic trait and less frequently to brain damage. She also notes that "mild" dyslexia may be reflected in slower psychoneurological maturation or what she also calls maturational lag.

Continued progress in ferreting out etiological factors involved in severe reading disability rests on several bases: (a) that of continued high quality research efforts, (b) continued development of valid test instruments to measure functions thought important, and (c) an adequate analysis of the issues and questions involved in this area of endeavor.

A study which asks some of the important questions as to reading disability and raises important questions as to etiological factors involved is apparent in a recent investigation undertaken by Walker.

Walker (1965) also made the important point that children with severe learning disabilities are not a homogeneous group but show a variety of deficits. She listed the following in her deficit grouping: difficulties in comprehension; difficulties in usage of language; difficulties in memory, in discrimination, and in gestalt recognition in the visual, auditory, and kinesthetic perceptual areas; difficulties in coding; difficulties in visuospatial relationships; and difficulties in spatial orientation.

Walker set out to look at a wide range of such functions in a cross sectional group of school children in the age range of 6-11 to 9-4. She then went on to compare the results of her normative data with the results from comparable aged children who showed severe reading retardation.

Various group tests were given which measured the above named functions. Walker also administered tests which she felt were reflective of the neurological status of the child (i.e., tests of motor ability skills as measured by the Oseretsky, and tests of associated movements, finger agnosia, and choreiform movements).

Results of this pilot study are given below:

1. Difficulties in the perceptual, coding, visuomotor, and spatial areas were scattered thru out the whole cross sectional group of 33 children.

2. Sixteen of the 33 children formed a "neurological group" as defined above; also, there was no consistent association of deficits in the perceptual, visuospatial, and coding areas with reading disability; and there was no consistent relationship of the above named deficit areas with the "neurological" test scores.

3. However, children who "failed" all the neurological tests showed marked deficits on the tests of perceptual, visuospatial, and coding functions.

4. The greater the "neurological" factor as defined in this study, the greater the degree of impairment in the perceptual, fisuospatial, and coding areas. All children with a severe neurological factor as defined by Walker's tests
   5 had in addition severe reading and spelling difficulties.

5. No child with any degree of "neurological loading" was clear of deficits in the perceptual, visuospatial, and coding areas measured by Walker's tests.

Walker said her findings "may point to some physiological-neurological dimension highly relevant to reading achievement but not directly related to general ability." No consistent relationship appeared between any one of the neurological functions as defined by Walker and reading disability. Among the children who were in the" "neurological" group but who had no reading or spelling difficulties, no particular pattern of strengths or deficits was ascertained. Obviously such a group needs further study to attempt to ferret out what other factors may have been at work which resulted in adequate reading performance. Therefore, such factors as competent teaching, emotional stability, etc., would have to be investigated. We would also want to investigate the compensatory mechanisms which might be at work with these children.

Summary

The object of this paper has been to provide a brief overview of factors involved in severe reading disability, to assess important developments in the area, and to offer a critical analysis of progress made. Particular emphasis has been given to the importance of visual perception in reading retardation. Possible etiological factors involved in reading retardation have been discussed. Finally, a number of characteristics associated with severe reading disability have been identified and described. While there are sharply differing opinions about the various factors involved in reading retardation, definite progress has been made in identifying specific characteristics associated with severe reading disability.

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ABSTRACT

INGREDIENTS (IMMEDIATE MATERIALS SELECTION)

by

Carlene Van Etten and Gary W. Adamson

Though there are many devices for evaluation and a large array of instructional materials at our disposal, we, as diagnosticians and remediation personnel, always come back to the same question: What is the link between diagnosis and remediation of specific learning problems?

At the Educational Modulation Center (EMC) we feel part of the answer can be found through the development of a prescriptive materials laboratory. The prescriptive materials laboratory is based on the hypothesis that educational materials can be adequately broken down to be used effectively with specifically defined learning problems.

A large collection of instructional materials provides the needed tools for diagnosis-remediation personnel. Such a collection, however, does not insure efficient and prescriptive use of the material. Prescriptive instruction is possible only when the materials for use have been thoroughly analyzed.

Analysis is accomplished by careful examination of all components of the material. Such a process is comparable to the chemist's analysis of a chemical compound. The materials analyst, like the chemist, is interested in exactly what ingredients are present within the material, the amount of the various ingredients, and their interaction with one another. If, for example, it is a phonetic material, just exactly what areas of phonics does it cover? How does the author present the material?

The wealth of material that may be gathered through analysis of instructional material is of little use without an efficient method of retrieval. Searching stored documents to recall information is a tedious and time consuming operation.

At the EMC a retrieval system is in use which allows highly specific selection of materials through the manipulation of keyword cards. This type of system is searched by superimposing appropriate cards over one another on a light box. Each place a pinhole of light shows through indicates a number on the grid. The numbers on the grid refer to a file containing Descriptive Analysis Sheets in a numerical sequence.

What can material analysis do to aid in the remediation of specific disabilities? Perhaps the biggest thing it can do will be to supply diagnosis-remediation

personnel with fingertip information that previously has had to be ferreted out by the time consuming process of going trhough volumes of material until the right item was found.

The demands of time placed on the classroom teacher and other professionals make a thorough analysis of all instructional materials by each individual an impossible task. It is, however, such an analysis that is prerequisite to effective prescriptive instruction.

INITIATING STATEWIDE PROGRAMS FOR THE EDUCATIONALLY HANDICAPPED

by

Anne Welch Carroll

Truly the time for talking, dreaming, and philosophizing on programs for the educationally handicapped is gone and the time for evaluating our efforts is here.

Dr. Ellis Graham, Director of Special Education for theColorado Department of Education proposed a bill forhelping the emotionally handicapped in 1962 which was defeated. Between 1963 and 1965 state legislation for the emotionally handicapped was reviewed and it was decided that the term "educationally handicapped" adopted by California in 1963 would provide a flexible term under the state law of Colorado.

In April 1965 the state legislatrue included the educationally handicapped under House Bill 1010 of the Handicapped Children's Educational Act.

By law educationally handicapped means those persons between the ages of 5 and 21 who are emotionally or perceptually handicapped, or both, and who require special programs. Classroom, itinerant or resource rooms, and homebound programs were made possible under this law. The variety of provisions of this law allowed for pupil placement, resource rooms, special class, and home-hospital teacher, has assisted districts greatly in developing programs based upon individual pupil needs. Programs are currently being provided for kindergarten, elementary, junior, and senior high school pupils. In the four years that the program has been in operation, most of the pupils who were first placed in them have shown noticeable improvement and many have returned to the regular classrooms and are functioning well. In many cases, they have shown a measurable increase in academic achievement.

The program for educationally handicapped children has been one of the fastest growing in the state. Since its inception four years ago, it has grown to include 4,000 children and 179 teachers in 38 districts.

It is our belief that in order to adequately plan a program for the child with a learning disability the local school must utilize essential health, social, and welfare services and work closely with private as well as public agencies. No one professional group has the answer for all educationally handicapped children; rather we are still in the exploring stage and must be careful to not jump to find the answer, but rather remember the old notion of differentiating experiences to satisfy individual needs.

The determination of existence of an educational handicap is made with the consent of the parent or guardian of the child by a committee of professionally qualified personnel appointed by the board of education of the school district. The composition of this committee is prescribed by the state board and may be composed of, but not limited to, the following: a psychologist, a social worker, a physician, a school administrator, and a teacher of the educationally handicapped.

Provisions of the Handicapped Children's Educational Act include 80 percent of the compensation of approved personnel; 50 percent of the cost of any approved special transportation provided for handicapped children, after other funds provided by the state are deducted; and the full amount of the cost of maintenance of a child in a licensed foster home, not to exceed $800 per school year; and in the event appropriations are insufficient to cover reimbursements provided for in the above, all approved reimbursements, except those for maintenance in a foster home, which are always fully reimbursed, are prorated on the basis of total claims submitted in proportion to funds available for reimbursement.

Objectives

The educationally handicapped programs in our state attempt to determine and deal with the child's specific learning and behavioral disability within an educational setting. Biology is of importance only as it contributes to better understanding of the educational problem. Part of the basic intent of this program is to avoid pigeonholing of children by categorical definition and to focus on his specific, individual, educational disability.

Basically, the curriculum for the educationallyhandicapped, to the maximum extent possible, should be the same as that which normally is found in regular school programs. However, this program requires a highly individualized approach involving specialized techniques, equipment, and environment to effectively cope with the complex learning characteristics and problems of the educationally handicapped pupil. The nature of the remedial instruction often goes far beyond what this word has previously meant in the regular school program. A wide range of daily preparation must be made for each pupil in the program as well as coordination of preparation with those of the regular teacher with whom an educationally handicapped pupil is integrated.

For many of these pupils, changes in behavior are necessary to facilitate effective learning. Reduction in anxiety, overcoming fear of failure, controlling of impulse behavior and learning self control are some important factors facilitating learning. The teacher also must be able to give care to or handle behavior crises such as aggressiveness, emotional reactions, or seizures within the structure of the classroom. The majority of children with learning disabilities will require edditional assistance in such areas as visual and auditory perception, memory span, physical coordination, language development, and behavioral modification.

An important objective of the program is the integration of the child's program with the regular school program as much as possible. The ultimate goal is to return the pupil to fulltime, regular school attendance.

Guidelines

Guidelines for school districts wishing to submit plans for implementing a program for the educationally handicapped were developed by the Department of Education in consultation with local experts.

Staffing. The basic purposes of school staffing program are two fold:

1. The identification of children who may need educational programs which are not provided in the regular classroom.

2. The analysis of the student's learning difficulties by competent professionals with concurrent suggestions for programs and procedures to facilitate learning.

Schools have varying degress of success depending on the availability of a few key specialists, but good staffing procedures provide built-in cross checks which tend to minimize the absence of personnel.

Procedures for staffing at the building level in medium to large school systems include the building committee which is composed of the student's teacher or teachers, principal, counselor, and remedial teacher. A detailed student history, with emphasis on currency is usually available prior to staffing sessions. At an appointed time and place each case is discussed by the building committee. The building committee decides on the basis of the available information whether:

1. The student should be referred to the school system committee for additional screening.

2. The student will be provided a revised program within the school under careful observation.

Parents are contacted when a change in the student's program is anticipated or when additional information is needed. The school committee is composed of the program director, school psychologist, psychiatrist, teacher of the educationally handicapped, social worker, and other professionals as needed for specific cases. The screening committee usually meets once per month to consider cases which have been referred by buildings and to review program changes for previous cases. Decisions may be delayed on some students pending further tests and observation. A plan is developed which outlines the student's activities, teacher responsibilities, and parent participation. Alternatives are listed. Continuous evaluation of the student's progress is included. A periodic review of all cases is made by the director. The recommendations include possible program changes. The evaluation committee is kept informed of their staffing successes and failures.

Procedures for staffing at the building level is a small school system use the same procedures as in the large school systems.

Teacher Evaluation

Colorado was not alone in making a decision whether to wait for fully prepared personnel or to begin to help children. Recognizing a need for service the Colorado Department of Education, Division of Special Services, decided to issue a Letter of Approval to teachers desiring to work with the educationally handicapped. Teachers selecting this route were asked to take nine quarter hours each year in a program leading to endorsement for teaching in this area. Such endorsement includes a masters degree in the area of the educationally handicapped with special attention given to the practicum experiences which should be fitted to the individual needs of the prospective teacher.

Endorsement for teachers of the eduationally handicapped was approved in November 1965. At this time it was concluded that Colorado State College, the University of Denver, and the University of Colorado would develop their own programs in the area of the educationally handicapped and that no further meetings would be held on endorsement in this area until after September 1966.

The standard level of training for this objective was the completion of the masters degree. The teacher of the educationally handicapped must have a teacher's certificate in either elementary or secondary education prior to endorsement in special education.

It was agreed that the personal qualifications of the prospective teacher of the educationally handicapped were of utmost importance in this area and careful consideration should be given to the selection of such individuals.

It was suggested that special attention be given to the practicum experience and fitted to the individual needs of the prospective teacher. The practicum was to be selected by the individual training institutions to include state approved public school programs, residential treatment centers, and day care facilities. A list of eligible practicum situations which might be used was given to the training institutions by the Division of Special Education Services.

In September 1966, the aforementioned training institutions submitted their course plans to the State Department of Education for approval. The following general areas were approved:

Area of human development--Psychological, physiological, and socialogical aspects of human development.

Area of diagnosis and remediation--Current principles, procedures, and techniques used in evaluating gross and fine motor development, receptive and expressive language including reading and writing. Procedures used in educational remediation and behavioral modification. Various types of educational handicaps, their classifications, possible causes, and manifestations. Organization and administration of programs designed for children with educational handicaps and techniques for parental counseling.

Related areas--Theories of learning and behavior in their application to learning and behavioral disorders. Services available from related fields for those with educational handicaps. Social interaction as related to the scientific and psychological aspects of human communication. Effective use of information obtained from related disciplines about the sensory, physical emotional, social, and intellectual status of a child with an educational handicap.

Inservice Education

An attempt to recognize the on the job needs of teachers was made through both formal and informal inservice education. The monthly meetings of an informal group called "Educators of the Educationally Handicapped" were held in the Denver Metropolitan area and taped for four regional sections of the state. These meetings proved quite successful and attendance, although voluntary, was excellent.

A more formal inservice program was given through district and state conferences as well as summer traineeships under PL 85-926, as amended.

The basic philosophy in teacher education in Colorado might be summarized by Eli Bower's comment when he stated, "We need instructors senior grade, not psychiatrists junior grade."

A Look to the Future

In looking to the future we find we are now in the late sixties and there is reason for optimism. At last we have come to grips with a phenomenon; namely, educational handicaps, and have begun to deal with it on its own terms. We in Colorado are beginning to understand the problems and to define them in ways that promise practical dividends as they are solved.

Our trend I have noticed in some of the preservice programs has been a move away from "the" approach, or as it might be "the apostolic approach" and toward the "child centered" or eclectic view. It would appear that for years we have been trying to find "the" approach and have found ourselves in a stalemate where we have been limited to concerns about hardward and room structure rather than the more difficult task of attempting to program according to individual needs. We might observe this trend on three levels of sophistication: (a) the apostle approach, (b) the trial and error (most of us seem to be at this level) and finally, (c) the appropriate individual program based upon research fingings.

Most educators will now agree that there is no single cause or cure for learning disabilities. Rather, the educational program must be planned on an individual basis through a team effort. This conference planning approach is also an important part of preservice education.

We are developing techniques of observation and analysis that uncover more basic variables than our earlier naive concepts could reveal. We are taking our research to the classroom and the school setting without losing the precision that our practical solutions require. As our knowledge of teaching and learning behavior accumulates, hopefully the day will come when no child will fail to learn in keeping with his capacity.

A prime need is still to bring closer together the teacher education programs of schools and colleges. The same principle applies here as in preservice education. Teaching is an act, not a body of knowledge, and the teaching of teaching should be brought into the closest possible contact with the teaching act itself. Colleges in our own state are beginning to find ways to offer extension courses where students can work on field problems as part of the course requirement. Universities are helping school districts plan and execute workshops centering on local needs, and provide credit toward advanced degrees for participation in them.

It would appear that there are at least two major changes needed. The first is simply to provice inservice education in adequate amounts. The second is to provide it in a form that will really work.

Research on the problems of teaching and learning is advancing rapidly. It is time that we face realistically the question of how the findings of such research can be fed into programs of teacher education and into the channels of inservice training. There is no ready answer to this question. But a suggestion is made for consideration. For one thing, state and regional centers for inservice training of teachers might be established. These centers for inservice training of teachers might be established. These centers would serve to bring teachers into contact with new development--new techniques of diagnosis, new modes of teaching, new materials of instruction, and new evaluation techniques--all at a practical level. These training centers should be staffed with the most competent practitioners as well as talk about them and who can also train others.

The training of a practitioner is the job of the competent practitioner. But he must not be the kind of person Disraeli referred to when he said "a practical man is the man who repeats the errors of his forefathers."

LEARNING DISABILITIES: WHERE HAVE WE BEEN ? WHERE ARE WE GOING ?

by

Jeanne McRae McCarthy

Seldom has a concept burst upon the educational scene with such cataclysmic force as the concept of special learning disabilities. Although the early impetus of the published work of Strauss and Lehtinen with the brain injured dated from the late 1940's and early 1950's, and the work of Orton and the dyslexia group dated from the 1920's and 1930's, the educational scene remained quite unruffled as late as the early 1960's. With the possible exception of some isolated research and practice in childhood aphasia and related language disturbances in such centers as Syracuse University, Northwestern, Purdue, the University of Illinois, and Bellevue Hospital, activity in the area which we now call learning disabilities was largely subliminal or limited to abortive excursions into new methods of remedial reading or new approaches to psychiatric or child guidance practice with children whose nonlearning was seen as a hostile response to parental pressure or rejection.

State legislatures had not yet been bombarded by parental pressure groups to enact enabling legislation. The USOE was blissfully unaware of what was about to erupt. Universities, with rare but notable exceptions, had no courses on the books to train personnel either to diagnose a learning disability or to teach the child who had one. Nor were there any plans afoot to initiate such training programs. Even The Council for Exceptional Children, the professional organization devoted to the education of children with special needs, at their annual convention in 1960 had not one program or paper which addressed itself to the topic under any of the various aliases which have been used to describe the child who cannot learn.

It is probably safe to say that in 1960 there were no public school classes for these children except for remedial reading programs. In Illinois in 1959 and 1960, we were able to bootleg service to a limited number of children by christening them "multiply handicapped"--the most common combination of handicaps being educational retardation, emotional disturbance, and brain damage. With the children thus labeled and documented, the public schools could legally initiate an educational program to teach them.

There were few parent groups organized to serve these children in 1960. I believe the New York Association for Brain Injured Children,the California Association for Neurogically Impaired Children, and the Fund for Perceptually Handicapped Children were the only ones in existence.

In a very few years since 1960, when all was relatively quiet on all fronts, until now, a great deal of progress has been made in all areas. Both federal and state legislation has been enacted to provide funds to train professional personnel as well as to provide the structure within which public school districts may initiate services and programs. At least 13 states now have within their education code a term which relates to LD. Parent groups have been organized at the national level, at the state level, and at the local level. There are now over 200 local and state affiliates of the Association for Children with LD. Many universities now have a sequence of courses leading to a masters degree or a doctorate in learning disabilities. There are many summer workshops or institutes in which a classroom teacher may enroll in order to upgrade her skills in meeting the needs of children with learning disabilities. Programs to train speech correctionists are collaborating with other disciplines to provide services for these children. Guidance counselors, particularly at the elementary level, are looking at learning, or nonlearning, as an essential part of their training and practice. Psychological diagnosis, as well asthe training of clinical or school psychologists, has taken a decided turn away from an emphasis on the dynamics of psychosexual development to an emphasis on learning as a modifiable behavior, and on perception and cognition rather than concentrating on emotional responses to environmental pressures. The total involvement of the field of medicine, whether in a positive or negative way, is everywhere apparent, whether it be in the obvious fields of pediatrics, neurology, and psychiatry, or in the less obvious fields of endocrinology, obstetrics, ophthalmology, otology, or genetics.

What meaning does all of this activity have to you as you attempt to integrate these new concepts into your established body of knowledge, into the organizational structure of your school system--whether you direct a program in New York, Florida, Wisconsin, Utah, or California? In simplest terms, it means that your job will be infinitely easier in this year of 1969 than it would have been at any other time. This is not to suggest, however, that your job will be easy. However, you do have some models--some other programs which have been started in public schools--from which you can learn a great deal. You do have a body of research theory and practice from which you can build a source program for children with learning disabilities. You also have a series of mistakes and blind alleys to assist you in plotting an educationally sound program.

In looking closely at where we have been and where we are going it seems safe to say that we seem to have come full circle and to have arrived again at what Binet in 1909 described as "mental orthopedics"--or the concept of the educability of intelligence. Binet, who predicted that era of mental measurement which spawned the motion that intelligence was hereditary, constant, and essentially unmodifiable, was committed to the belief that each specific function of intellect could be improved with training, and that "the same was true of the ensemble as of the elements"--that intelligence itself could be improved and increased with specific training. The same attitude was apparent in the early work of Samuel Orton and Marian Monroe. However, with the influence of the Freudian school of psychology, educators became involved in several decades of viewing learning problems as psychogenic manifestations of inner conflict in the child or as due to "poor motivation." Thus, the "child who cannot learn" was seen as the "child who would not learn," because nonlearning served a conscious or unconscious role in his struggle with forces which impede ego development. During this era of an essentially psychodynamic conception of learning problems, educators found themselves encouraging parents to involve the child in extensive periods of psychotherapy in an effort to resolve the inner conflicts which were causing or contributing to the inability to learn. Child development specialists emphasize the need of the child for success experiences, praise, and a relaxed, pleasant approach to school learning tasks. After several decades of often fruitless efforts at manipulating the child's attitude toward learning, it became apparent to many psychiatrists, psychologists, and social workers, that tender loving care, or a deeper understanding of his own motivation, could at best produce a child who was comfortable, albeit euphoric, with his nonlearning. It began to occur to some psychiatrists that someone was going to have to teach him to read. Pioneer research at this point was begun in a variety of facilities, among them at Hawthorne Center by Ralph Rabenooiik, who found that the greatest number of emotionally distrubed childern who recovered were among those who were being tutored as part of the therapy.

During the waning days of the psychodynamic approach to nonlearning, another thread of research and practice began to make an impact on the educational scene, the work of Alfred Strauss, Laura Lehtinen, and Newell Kephart and that of Dosa Hagin and Areline Selver with brain damaged children. The concept of brain damage as a cause of nonlearning was apparently a welcome change from the more nebulous, more abstract concepts derived from Freudian psychoanalysis. However, the "braindamaged" era began slowly, with the publishing of Strauss and Lehtinen's book in 1947, and did not emerge full blown until the early 1960's, as a many labeled concept embodying elements derived from a variegated heritage. As a body of theory and research has developed over the past decade involving the child who does not learn, it seems apparent that strands from many disciplines are coalescing in the emergence of special learning disabilities as a significant educational concept.

Each year, I have attempted to delineate trends and issues in the field of learning disabilities which seem to be evolving from year to year. By far the most important issue in the field today is that of definition. In some areas there is still a serious question in the minds of special education over the very existence of learning disabilities. Are we just talking about "dumb kids," as one notable educator suggested to me last week? Is the child with special learning disabilities just the MR kid in the suburbs? Is this not just another label for the emotionally disturbed child? As we look at the trends in definitions, it becomes apparent that the early medical emphasis is being replaced with an educational emphasis. The early emphasis on etiology is being replaced by an emphasis on remediation. The six or seven current definitions which seem acceptable to the majority of practitioners in the field, including the Task Force I definition, the Task Force II definition, the ACLD definition, Kirk's early definition, the definition of the Northwestern Conference, or the National Advisory Committee definition, all have two concepts in common: the first is the intact clause, the second is the discrepancy clause. Most definers seem to agree that the child with special learning disabilities is basically an intact organism. This concept of intactness is expressed differently in different definitions. Some follow Dr. Gallagher's comment in St. Louis at the CEC meeting, when a small group were attempting to formulate a definition acceptable to all factors, "whenever you start to define a horse, you first have to define a nonhorse." Thus, the "nonhorse" part of the definitions may be more specific than the definition of what a learning disability is. We seem to be quite sure that the learning disability is not "primarily due to visual, hearing or motor handicaps, to mental retardation, emotional disturbance or to environmental disadvantage." These are basically intact children.

However, "the discrepancy clause" seems to be somewhat less specific. The National Advisory Committee describes the children with special learning disabilities as those who "exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language." These may be manifested in disorder of listening, thinking, talking, reading, writing, spelling, or arithmetic.

This definition seems to be one upon which a sound educational program can be based. You will notice that there is no statement of possible etiology in this definition. We seem to have outgrown our need for a medical model around which we can build an educational program. We have learned from the experience of those programs which have included a medical diagnosis of organicity that the neurological examination or the EEG provides a tenuous base upon which to build an educational program. For those of you who are saddled with legislation or a program which includes some statement of physical disability before these children can be served, I highly recommend that you read, in the February issue of Journal of Special Education, Roger Freeman's article entitled: "Special Education and the Electroencephalogram: A Marriage of Convenience." After reviewing the extensive research involving the EEG, Dr. Freeman recommends that special education consider at least a trial separation from neurology and the EEG.

My reason for spending this much time on the evolution of a viable definition is that I am convinced that the most important decision you will make is that of the definition--because your definition will dictate for you the terminology to be used in your program, the prevalence figures your selection criterion, the characteristics of your population, and the appropriate remedial procedures.

I would like to point out that this emphasis on definition seems to be of more intense concern in the area of learning disabilities than in any other area of handicap.

The question of incidence, or more correctly prevalence, is one that is causing a great deal of difficulty at the present time. "Guesstimates" of how many children there are with special leraning disabilities range from 1 to 40 percent of the total school population. Prevalence is determined directly by the definition used. Dr. Myklebust, in discussing the question of "how many children are there," has said, "Tell me how many you want to find, and I'll write you a definition that will find that many." Using the National Advisory Committee definition, there is some evidence to suggest that learning disabilities exist in varying degrees in children. While the milder learning disabilities may profit from the individualization of instruction in the regular classroom, the more severe problems require special remedial procedures. An extremely conservative estimate of the latter group would include 1 to 3 percent of the total school population, according to the Report of the National Advisory Committee.

Regardless of which guesstimate you elect to use in your program, be assured that you will find that there are too many children with learning disabilities which require educational modifications to be served by special class placement or to be individually diagnosed by trained specialists.

You will also find that learning disabilities come in all shapes and sizes. The varying degrees of learning disabilities in children require varying degrees of intensity of service in the schools. To describe an "exemplary program" for all children with learning disabilities, as if any one type program will serve all children, is to oversimplify an extremely complex problem.

To summarize progress to date is to come to grips with the possibility that we are going around in circles rather than making progress:

Methodologically, we started with visual perception, then went to sensorimotor training, then to ocular pursuit, then to the establishment of cerebral dominance, then to stimulus reduction, then to auditory perceptual or language training, then to multisensory training, then to integration of sensory stimuli, then to an analytic approach, and then to behavior modification. Academically, we have gone from Orton to Fernald to Gillingham to Spaulding to SRA to BRL, to Phonovisual, to the Language Master, to ITA, and now to any reading method which has a decoding emphasis. The focus of remediation has been passed from the social worker to the pediatrician to the psychiatrist to the psychologist to the neurologist to the endocrinologist and now back to the teachers.

So much for where have we been! It is much more difficult to discuss where are we going! I am indebted to Dr. Samuel Kirk and Dr. Masland for confirming some of my ideas about the future in the speeches they made at the recent ACLD conference in Fort Worth. I am also indebted to Alice Thompson for sharing some of her ideas in a paper she presented to the California CASE group last year. By pooling these expert opinions, I have gathered the courage to make some predictions about the future.

I predict the special learning disabilities will continue to gain prestige as a respected category of special education.

As learning disabilities stablizes, so should those areas which seem to be clouding the picture at the present time: language problems, aphasia, dyslexia, remedial reading slow learners, and some emotionally disturbed and mentally retarded children.

It seems quite clear that the National Advisory Committee definition includes children with developmental aphasia. Thus, a district with a program for children with learning disabilities would automatically include aphasic children in such a program.

My second prediction involves a proliferation of new programs and services for children with special learning disorders. Pressure from parents will continue to keep pace with the demands of society. As administrators it is urgent that you come to grips with some of the pressure points involved in the program, and plan carefully to avoid the booby traps. By all means plan programs of varying degrees of intensity to match the varying degrees of severity of learning disabilities in the children. You will need (a) consultants to regular classroom teachers, either on an itinerate basis or on a one consultant per building basis; (b) you will need some resource room teachers, where children are bused to the school to spend a portion of each day in the regular class and a portion in the special class; (c) you will need some self contained classes for the most severely involved children where the major emphasis in the self contained classroom should be on return to a resource room program in the school in which the child "belongs" since research and experience indicate that the farther a child is removed from the normal educational program, the more difficult it becomes to return him to the mainstream. Major emphasis needs to be placed on the individualization of instruction for most children with learning disorders within the regular classroom. I cannot conceive of the pressure in one of our states for residential schools for these children. And yet, this was the major thrust of both parents and educators. And why? Because the legislation was written in such a way as to reward residential placement, but not to support public school classes. If your state is faced with the problem, roll up your sleeves and become involved in rewriting the legislation, but don't subscribe to the notion of packing these children off to boarding - or hospital schools.

By the same token, the best prevalence figures we have suggest that most districts would have enough children to start a class in their own district, rather than as part of a joint agreement or cooperative arrangements. To bus most children with special learning disorders to a special school run by a cooperative, as I have seen done in N.G. is to compound an already complex problem. It may be necessary to provide diagnostic services on a cooperative basis, but major emphasis on programs needs to be placed at the local district on local building level. The reunifications for preservice and inservice training are monumental. We need to work toward a drastic change in attitude on the part of regular classroom teachers from the current "He doesn't belong in my class" to an attitude of "What can I do to help him?"

My third prediction in answer to where are we going involves early identification of these high risk children and a complete change in attitude toward our interest in and responsibility for preschool children. There is no question that these children can be identified in kindergarten. Many of them could be identified and served at four. The current trend toward mandatory education at age three is one that I believe will continue to gain support at all levels. Impetus for this will come from the one hundred demonstration programs funded under PL 90-538, the Handicapped Children's Early Education Assistance Act.

This also suggests that speech correctionists will begin to become more directly involved in the limited disorder program, that the division of labor between DCCD and DCLD might will be reexamined.

Dyslexia will be viewed as a subset of learning disabilities. Severely disabled readers will be programed just as severely disabled learners of any other type. It is probable that remedial reading populations are now made up of some children who have special learning disabilities and some whose failure to learn is due to causes outside of the child. Thus, care will need to be taken by administrators to avoid duplication of services, without cutting out needed services to children with corrective reading problems. It is probably safe to say that the current practice of some districts of having parallel programs serving the same child will be discontinued.

It seems well within the realm of probability that the National Advisory Committee on Dyslexia and Related Reading Disorders will, in their final report due in June, help to clarify the relationship between limited disorders and dyslexia, thus providing a base for better articulation between reading specialists and limited disorder specialists at the national, state, university, and public school levels. Limited disorder may be the bridge which will increase communication and articulation between elementary education and special education, since most children with SLD will not need a self contained special class, but will remain in a regular class for part of the day.

The current furor over "an IQ of go or above" seems quite likely to dissipate rather quickly, as psychologists and educators continue in their disenchantment with the IQ as a measure of function in children. We are now aware that IQ 's in many children respond to programs aimed at training intelligence, and are unstable enough to warrant careful matching to performance in and out of the classrooms. The number of hours of expensive professional time being wasted on trying to decide whether a child with an IQ of 79-81 is mentally retarded with a learning disability or merely a limited disorder should reduce sharply, as classes for mentally retarded children begin to individualize instruction and utilize the concepts of clinical teaching commonly found in limited disorder classes (requisitions and ordering).

In the immediate future, I predict that little or no valuable time will be wasted trying to decide whether a child is primarily emotionally disturbed or learning disabled. In the normal school population, the child with a LD will stick out like a sore thumb. The fact that he also has emotional problems is a given. Psychotic, schizophrenic and autistic children will also stick out like sore thumbs, and obviously need to be programed differently than the child with minor adjustment problems. Between these two extremes lies a large group of conduct problem learning disabled children who can profit from a carefully structured, purposeful, learning focused classroom atmosphere, regardless of the label for the condition.

If you do not have a program, I heartily recommend that you start with early identification and programing at the kindergarten or first grade level. This is a difficult place to start, since awareness of failure on the part of the child has not yte hit his parents or his teachers. You will also be fighting a large segment of kindergarten teachers who still subscribe to the "leave them alone and they'll come home" philosophy. At the very least, begin to reexamine your entrance policies for high risk children and design a program to serve them rather than sending them home for another year in an environment which already has them behind their peers.

My fourth prediction involves the relationhhip between learning disabilities and cultural deprivation--or between special education and compensatory education, if you will. We have already excluded culturally deprived children from the learning disability population by definition, but this does not solve the practical problems for you. I am not too hopeful that learning disability concepts are going to have a great deal of impact on the problems of the culturally deprived. I am quite convinced that the answers to these problems will need to involve total societal involvement, of which special education is a small part. There is no question that massive changes must take place in the community, in the home, and in the school system before we begin to find answers to these learning problems. But let us not fail to provide for the smaller number of children with special learning disabilities of unknown etiology, while we wait for answers to the much larger problem of cultural deprivation.

My fifth prediction involves our current concept of the diagnostic process. At the present time diagnosis is primitive, time consuming, expensive, and frought with problems of validity and reliability. Our instruments for diagnosis and prediction are at best rudimentary. Test constructors will continue in their efforts to provide valid microscope measures of cognition. As psychologists become more disenchanted with the traditional tools of their trade and as a new breed of psychologists replaces those left over from the Rorschach days of their Veterans Administration training, you will begin to see more creative use of some of the good diagnostic instruments available to your school psychologists.

My sixth prediction involves remedial methods. We seem to have tried all the global approaches to remediation that can be conceived. Now we are ready to begin differentiating the teaching methods so that we will see the emergence of real clinical teaching, where the goal is a precise match between the cognitive style of the learner and the cognitive demands of the task. We will be seeing emphasis placed on the diagnostic role of the teacher, as well as the training of specialists who are both psychoeducators, diagnosticians, and clinical teachers.

In the foreseeable future I suspect that such neuropsychologists as Karl Pribram will be able to tell us something meaningful about the chemistry of learning in human children. At the present time, they are quite knowledgeable about earthworms, rats, pigeons, and even chimpanzees, but not about children. I am not willing to sit around and wait for the "pill" which will prove to be the panacea that will solve all of the problems of children who do not learn. In the meantime I hope that you will be as aware as I that children who do not learn do not do so for an infinite variety of reasons. For some of these it is because of a special learning disability. For these, we can and should provide special educational programs.

ABSTRACT

OUTPATIENT DIAGNOSTIC AND REMEDIAL SERVICES FOR CHILDREN WITH CEREBRAL DYSFUNCTION

by

Howard L. Millman

The necessity for the child guidance clinic to diagnose and effectively treat children with minimal cerebral dysfunction was discussed. These children are still frequently mislabeled as behavior disordered or emotionally distubred. When the ideal diagnostic center is not available, a coordinated effort is needed to totally evaluate the child. A clinic's staff should be sensitized by distribution of the excellent literature available. The most sophisticated battery of psychological tests that can be assembled should be administered whenever serious learning problems exist or suspect behavior is reported. In many cases, a clinic may refer a child for a pediatric neurological examination, a developmental optometric examination, and/or a possible speech and hearing evaluation. The need is noted that recommendations based upon psychological testing should be relevant educationally and should outline specific action to strengthen weaknesses. When parents are informed of the diagnosis, great care must be taken to describe the findings in a meaningful, helpful manner.

The following recommendations are described in detail: Special school, special class, or supplemental training; medication by the pediatrician, neurologist, or clinic psychiatrist; developmental optometrist, for complete visual evaluation and visual motor training in areas of deficit; individual or group counseling on psychotherapy for the child when indicated; parents joining appropriate associations; recreational programs including specific gross and find visual motor activities; and parent counseling group. It is time for us to transcend our own professional roles and become more sensitized to the profound consequences of an improperly functioning central nervous system.

PERCEPTUAL BEHAVIORS AND READING DISABILITIES: EMPHASIS ON THE NEUROLOGICAL IMPAIRED

by

Gerald B. Fuller

The field of reading disability has been emerging as an area of great concern and interest, not only for the educator, but for the psychologist, speech and language specialist, and physician. They all have something to say about children who experience reading difficulties. The definitions of reading disability vary; some are all inclusive; others are restrictive and deal with subtypes of categories within the broad realm of reading disabilities. The purpose of this paper is to report on our research over the past five years with children according to three categories of reading disorders on certain perceptual motor functions.

We have been employing a relatively new diagnostic instrument in our work. This instrument is the Minnesota Percepto-Diagnostic Test (MPD) (Fuller & Laird, 1963, Fuller & Hawkins, 1967; Fuller, 1969) which is a clinical and research instrument designed to assess visual perception and visual motor abilities. It consists of six Gestalt designs which the subject copies. The reproduced designs are scored for degrees of rotation that each figure deviates from its original axis. The rotation scores have been adjusted for both IQ and age. In addition, two other scoring variables are used: separations and distortions, especially to facilitate the diagnosis of brain damage.

The test has been used to determine if there are perceptual differences in reading disability and whether a more definitive differential diagnosis by etiological groups can be made. Specifically, we have been concerned with three groups of reading disability: primary, secondary, and brain damaged readers with particular research on the latter group.

Population

A group of 412 children ranging in age from 7 to 15 has been tested. Those in the reading disability group were identified by the school as having a reading or learning problem and as scoring one and a half years or more below the MA of performance on the Gates or Gray's Oral Reading Tests. All children had received the Wechsler Intelligence Scale for Children (WISC). WISC performance IQ's were utilized since they appear influenced less by reading disability than the verbal IQ's. The children were evaluated by a team not connected with our research. The team consisted of psychiatrists, social workers, psychologists, and remedial reading specialists. The team classified them into the three categories of reading disability.

The 412 subjects were classified as follows:

1. Good Reader--This group, the control, was composed of 200 subjects who had not been considered a school or social problem and who scored one or more years above average on reading tests. Their mean IQ was 111.21; age 11.04; education 9.04 grades.

2. Primary Reading Disability--This group consisted of 52 children whose capacity to learn to read was impaired without specific evidence of brain damage being suggested in history or on neurological examination. Their defect was an inability to work with letters and words as symbols. Hence, there was an inability to integrate the meaningfulness of written material. Their mean IQ was 99.44; age 10.82; education 7.91 grades.

3. Secondary Reading Disability--This group consisted of 90 children whose capacity to read was intact but not utilized sufficiently for the child to achieve a reading level appropriate to his intelligence. Reading difficulty in these cases was symptomatic of a basic disturbance in their emotional life. The child's normal reading potential may have been impaired by negativism, depression, anxiety, emotional blocking or other external influences such as limited schooling. Their mean IQ was 101.26; age 10.14; education 9.52.

4. Brain Damaged Reading Disability--This group consisted of 70 children whose capacity to learn to read was impaired by obvious brain damage and is, as a rule, manifested by neurologic defects. Their mean IQ was 89.23; age 11.83; education 7.85.

Table 1 presents the means and standard deviations ofr good readers and reading disability groups on rotation (T-score), intelligence, age, and education.

TABLE 1

Means and Standard Deviation for Good Reader and Reading Retardation Groups on Rotation (T-Score), Intelligence, Age, and Education

Diagnostic Category	N	Rotation Mean	Rotation SD	IQ Mean	IQ SD	Age Mean	Age SD	Education Mean	Education SD
Good Reader	200	58.26	4.84	111.21	9.24	11.04	2.51	9.04	5.30
Secondary Reading Retardation	90	42.11	5.32	101.26	11.62	10.14	2.70	9.52	4.21
Primary Reading Retardation	52	54.75	4.10	99.44	11.28	10.82	2.42	7.91	3.34
Organic Reading Retardation	70	29.24	7.14	89.23	10.84	11.83	2.63	7.85	3.02

Administration and Scoring of Test

Each child was administered the MPD cards individually. Care was taken to require the stimulus card to be in direct alignment with the sheet of paper and to not allow the subject to turn either card or paper. Each subject was told, "I am going to show you six cards, one at a time. Each card contains a figure. Copy the figure the best you can on this paper."

The scoring of rotation consisted of the following steps:

1. The reproduction of the design from each one of the six cards was scored for actual degrees of rotation by means of a protractor.

2. After the actual degrees of rotation were recorded, then the degrees of each design which were not rotated more than 25° were recorded as measured under "corrected score." For each design that exceeded 25°, the corrected score is 25. That is, no one design was allowed to be scored more than 25.

3. The corrected scores of the six designs were totaled. No total could exceed 150.

4. The total corrected score was then transformed to a T-score which had been adjusted for both IQ (mean of 50, SD of 10) and age by entering appropriate table in the manual.

A scoring system has also been devised for separations, which involves spacing the circle and the diamond incorrectly in reproduction (the circle and diamond being connected in the standard) and loss of gestalt (distortions) in which figures have lost their identity or are distorted.

These two scoring variables have been divided into the following three areas: (a) separation of the three circle-diamond figures (SpCD), (b) loss of gestalt in the three circle-diamond figures (DCD), and (c) loss of gestalt in the three dot figures (DD).

The six designs are scored for the frequency with which a distortion or separation occurs. For the three circle and diamond patterns a separation score of

TABLE 2
Distribution of a Criterion Sample of 83 BD and 86 NBD Retardates in Three Separate 9 Celled Tables, Each Based on a Pair of MPD Scores

SpCD - DD						SpCD - DCD						DD - DCD					
Cell Number of Frequencies					(100 fm)	Cell Number of Frequencies					(100 fm)	Cell Number of Frequencies					(100 fm)
SpCD	DD	f_{BD}	f_{NBD}	Modal Cat.	f_{BD} & f_{NBD}	SpCD	DCD	f_{BD}	f_{NBD}	Modal Cat.	f_{BD} & f_{NBD}	DD	DCD	f_{BD}	f_{NBD}	Modal Cat.	f_{BD} & f_{NBD}
0	0	29	66	NBD	69.3	0	0	14	53	NBD	77.6	0	0	22	56	NBD	71.8
0	1	3	6	NBD	66.6	0	1	2	7	NBD	77.7	0	1	4	11	NBD	73.3
0	2,3	11	3	BD	77.7	0	2,3	18	12	BD	60.0	0	2,3	20	11	BD	64.5
1	0	11	5	BD	68.7	1	0	5	4	BD	55.5	1	0	3	2	BD	60.0
1	1	3	0	BD	100.0	1	1	3	2	BD	60.0	1	1	4	0	BD	100.0
1	2,3	3	2	BD	60.0	1	2,3	9	1	BD	90.0	1	2,3	6	1	BD	85.5
2,3	0	12	3	BD	80.0	2,3	0	9	4	BD	69.2	2,3	0	5	2	BD	71.4
2,3	1	6	1	BD	85.7	2,3	1	5	2	BD	71.4	2,3	1	4	1	BD	80.0
2,3	2,3	10	0	BD	100.0	2,3	2,3	14	1	BD	93.3	2,3	2,3	15	2	BD	88.2

three is possible, the same maximum score as for distortion of these designs and also for distortion of the three dot patterns. One then enters an actuarial table for the three predictors (see Table 2) containing three 9 cell blocks which contain estimated cell validities for brain damage.

Table 1 illustrates that the good reader has a mean rotation T-score of 58.26; primary reader, 54.75; secondary reader, 42.11; and organic reader 29.24. Table 2 shows the frequency of converted T-scores of rotation for good readers and reading retardation groups.

TABLE 3

Frequency of Converted Scores (T-Score) of Rotation for Good Readers and Reading Retardation Groups

Rotation (T-score)	Good Readers (N=200) f	Secondary Reader (N=90) f	Primary Reader (N=52) f	Organic Reader (N=70) f
76-80				
71-75				
66-70	2		5	
61-65	10		9	
56-60	83	4	18	
51-55	102	2	11	
46-50	3	6	6	
41-45		8	2	
36-40		27	1	2
31-35		24		7
26-30		8		8
21-25				12
20-below				31

Inspection of this table indicated that the ranges of T-scores of the different reading groups do not show a great deal of overlap, making it possible to establish cutoff scores which will enable the best predictability of which reading group a child belongs in.

Table 4 gives the cutoff and percent of good readers and reading retardation groups correctly identified.

TABLE 4

Cutoff Scores and Percent of Good Readers and Reading Retardation Groups Correctly Identified

Cutoff T-Scores	Groups	N	Number Identified	Number Misidentified	Percent Correct Identification
45-80	Good Reader	200	200	0	100
45-80	Primary Reader	52	46	6	88
31-44	Secondary Reader	90	70	20	77
0-30	Organic Reader	70	61	9	87

It can be seen from Table 4 that a cutoff score of 45 to 80 will correctly identify 100 percent or all of the good readers. Using the same cutoff, 88 percent of the primary readers are correctly identified which is 46 out of 52. The frequency distri ution of scores was almost identical for both the good and primary readers. For the secondary reading retardation group, a cutoff score between 31 to 44 was established, resulting in identification of 77 percent as 12 cases fell above and 8 below the given range of rotation. A cutoff score of 30 and below for the organic reader resulted in correctly identifying 87 percent of this group. Nine of the 70 were misidentified and fell into the secondary reading group.

Discussion

If a child has been referred primarily because of a reading or learning problem rather than a behavioral problem he can be classified as: (a) primary reading retardation if the T-score is 45 or above; (b) secondary reading retardation if the T-score is 31 to 44, or (c) organic reading retardation if the T-score is 30 or below.

Primary reading retardation. The fact that the good readers and primary readers have the same cutoff T-score is well worth noting. It appears that problems of visual perception and orientation are related to reading impairment in two of the three reading disability types (secondary reading disability and organic reading retardation), while in the primary reading disability they are not significant factors (Fuller & Shaw, 1963).

In the primary reader it appears that his problems are associative rather than perceptual. The word or letter form is perceived but the symbolic significance is not grasped. This implies that a child with such difficulty does not have a word or letter reversal but does see them correctly in their spatial organization. However, he is unable to associate words with one another in such a manner as to furnish meaning or to give him understanding of a given sentence. As Rabinovitch (1959) has stated in his definition of primary reading disability, "The defect is in the ability to deal with letters and words as symbols, with resultant diminished ability to integrate the meaningfulness of written materials."

Perhaps one may assume that the visual processes from sense organs to and involving the visual sensory projection area do not differ from those in the normal child. But, beyond this, something has failed to transpire in the association areas. Primary reading disability thus resembles receptive aphasia in a lack of comprehension. It is not an aphasia, however, because comprehension has not been lost but rather has never been fully acquired.

Such a child will not only fail to profit under normal classroom practices but also in remedial classes, if the emphasis is upon perceptual training which stresses figure ground and spatial orientation. These procedures may not be appropriate to his problem. For example, he has little if any difficulty in appreciating which of two objects is wider, but he cannot define their width in feet. The MPD test reveals this. Capable of perceiving configurations, he is also able to demonstrate the accuracy of his perception. However, it is very difficult or even impossible for him to conceptualize his experience. The same explanation holds for letter forms which are perceived; however, their combination into words has no meaning.

On psychometric tests this group of children has greater difficulty with abstract or conceptual thinking at both a verbal and nonverbal level. There is also a tendency for them to perform much better on performance tests than on verbal tests, suggesting a general verbal incapacity. Qualitatively, these children display considerable inferiority and frustration and tend to blame themselves for being unable to read. Remedial reading therapy is recommended in the perceptual conceptual area. It might be that a visual auditory tactile kinesthetic approach might be the promising one.

Secondary reading retardation. The result of being emotionally disturbed is that this type of child will be less aware of the surrounding stimuli that are important visual cues for reading (Fuller, 1964). This child will be affected both by the figure ground combinations he encounters and the number of kind of cues available. In addition, he has difficulty handling cues selectively, ignoring those which are inappropriate, which a good reader must be able to do. Since the secondary reader is emotionally disturbed, and the more distrubed he is the less ability he has to select visual cues with which to orientate himself, the more likely he will be to misinterpret or to distort the ones that are available.

In the secondary reader considerably more rotation on the MPD test is produced by his emotional state which hampers his ability adequately to interpret or utilize available cues; that is, under stress, threat, frustration, or general excitement this child does not perceive accurately which is basic to the reading process. Hence, the greater the emotional problems, the greater is the perceptual distortion (rotation on the MPD). Further, he becomes unsure of incoming signals or stimuli, which increases the number of stimuli to be discriminated. This also leads to poor self confidence and feelings of inadequacy, since the secondary reader is often never sure of the appropriate response.

This child's capacity to read is intact but is utilized insufficiently for him to achieve a reading level appropriate to his intelligence. His reading difficulty is only one symptom of a basic disturbance in his emotional life, although many times the major one. The secondary reader (as opposed to the primary reader) does manifest a disturbance in visual perception and orientation which is related to reading impairment. On psychometrics these children show, for the most part, impairment of social judgment. There is less discrepancy between the verbal and performance IQ's of this group. In addition, verbal IQ is usually higher than for the primary group.

Since the techniques of reading in the secondary reader are basically intact, it will be necessary to motivate the child to utilize his emotionally impaired capacity. Therapy is needed to handle the basic adjustment problem to which the reading problem is secondary, thus helping to release his learning potential. Specific reading remediation is also needed to help him increase the skills in which he is deficient because of earlier blocking or lack of exposure or practice. A good deal of progress is usually noted in this group.

Organic reading retardation. In these children the capacity to learn to read is impaired by brain damage. Different subgroups of aphasia might also be present. The organic reader produces the most rotation of the three reading groups on the MPD test, perhaps because of a combined effect of neurological deficit and anxiety. Too many peripheral cues are taken in, making it virtually impossible to differentiate the relevant cues from the irrelevant. This suggests that the organic sensory processes relative to taking in or receiving stimuli in the environment are faulty. Therefore, the child is unable to decrease the number of stimuli that have to be discriminated and selection does not improve. It appears that the organic reader is more susceptible to interference from irrelevant cues when making a perceptual discrimination and that when such cues are prominent the organic reader's discrimination suffers more than others. The overall pattern may thus cause the child to lose articulation of the individual parts of a pattern, e.g., the interaction of figure and background in the case of the MPD cards.

The organic readers also tended to separate the parts of the figures, especially the diamond and circle, and to distort the figures to the point of the gestalt being unrecognizable in many cases, while this behavior was virtually absent in the other two groups of readers. In a recent study, Fuller and Hawkins (1969), demonstrated that organic mentally retarded children could be highly differentiated from nonorganic mentally retarded children in addition to notation on the basis of separations and distortions.

This study showed that applying the 3 table prediction system to a cross validation sample of 74 cases, it achieved 63/74 or 85 percent hits on the total cross validated sample. In terms of the two groups, 19/22 or 86 percent of the BD were correctly identified while 44/52 or 85 percent of NBD were properly identified. This system misclassified 3 BD and 8 NBD subjects.

The best method to use to help identify brain damage in children may well be a two step diagnostic procedure. The first step would consist of looking at the rotation T-score and if under 30 the decision might be that the subject is brain damaged. If this T-score is accompanied by separations and distortions the confirmation of BD is that much stronger. The second step would be employed when the T-score is above 30 but separations and/or distortions are still present. In this case the probability of a subject's performance still being associated with brain damage would be very high if predicted ss such by Table 2. The subject should be at least 8 years old before one can employ the prediction table to diagnose BD.

For the good reader, analysis of wholes and integration of parts go together, and the combination of both makes for adequate reading. The organic reader appears to have troubles in these areas, that is, in the integration and differentiation of visual patterns. There is a lack of ability to respond and organize perceptual elements into a total gestalt because of neurological deficits. This is noted in their difficulty with spatial organization on the MPD test, as they lack the ability to integrate parts of a figure and to differentiate figure from background.

On psychometric tests, this group shows many of the usual signs resulting from an organic impairment, such as motor incoordination and extreme concreteness. Qualitatively, these children tend to be hypoactive, inattentive and impulsive, and to have difficulty on items dealing with visual figure ground perception. Remedial reading therapy plus medication are recommended.

In summary, then, it appears that the good reader and primary reader produce the least rotation and the organic reader the most. The secondary reader who is intermediate between these two groups in perceptions will, in the same kind of learning situation, show behavior relatively similar to that of the organic; that is, he will grope for relevant perceptual cues and tend to use nebulous, poorly specified reading responses, though to a lesser degree.

Smith (1968) using the same 3 subcategories of reading disability compared them on a number of selected variables. These included laterality as measured by the Hawthorn Center Concepts-Symbolization Test; Auditory Discrimination Test; the WISC subtests-Digit Span, Arithmetic and Block Design; Memory-for-Designs Test; MPD; and Directional consistency and reading level as measured by the Gates Reading Test. She found the the groups differed on Digit Span, directional consistency, MPD, and reading level. The significant differences were found to be between the primary and organic group with the primary doing the best on all variables except the MPD and the organics the worst. Each group differed significantly from the other on the MPD test. A second phase of Smith's study compared the three diagnostic reading groups to the normative populations on each of the selected variables. She found that the primary group was not significantly different from the normative populations on any of the selected variables. The secondary group was significantly different from the normative groups on three variables: arithmetic and digit span of the WISC and the MPD test. The organic group was found to be significantly different on two variables: WISC digit span and the MPD test.

Other studies by Krippner (1966), Fuller (1964), and Wolf (1968) have established the validity of the MPD test correctly to place subjects with reading problems into one of the three diagnostic reading retardation groups. For instance, in Krippner's study, the MPD agreed with the established diagnosis in 22 of the 24 cases used.

The MPD test has also shown very good discriminatory power in identifying children in general who have been diagnosed as brain damaged (Buros, 1966; Yates, 1966). L'Abate (1966, 1968) presented results which support the usefulness of the MPD as a screening test for cerebral dysfunction in children. He also compared the performance on the MPD of a brain damaged and non brain damaged sample of children with their performance on two other tests of visuo-motor functioning: the Rivised Hidden-Figures and the Benton Revised Visual Retentions. In most instances, the MPD discriminated between the two groups more often and at a higher statistical level than the other two tests. The MPD scores were positively correlated with reproduction errors on the Benton and inversely with the figures correctly identified on the Hidden-Figure test.

Results of a study by Kreitman (1966) on 14 children who had been referred for a psychological evaluation and were diagnosed as having organic dysfunction on the basis of consistency of agreement between psychological test results (excepting the MPD), school behavior, social histories, and medical findings indicated that all the children obtained a raw score on the MPD test that would place them in the brain damaged classification.

Schwartz and Dennerll (1968) carried out a study with the purpose of discovering the differences, if any, on three neurophychological tests (MPD being one of them) between groups of children referred to an out patient epilepsy center and emerging with a diagnosis of: convulsive disorder, questionable, or nonconvulsive. Their results with respect to degrees of rotation indicated a clear progression of higher (more rotation, hence more impaired) scores as one progressed from the nonconvulsive to the convulsive disorder group.

Since the MPD test now has three scoring categories the question can be raised: "What kind of brain damage is related to what kind of errors." This problem of specificity of functions and localization has been under scrutiny and the preliminary results can now be reported (Zalen, 1969).

Sixty-two subjects who produced either distortions or separations on selected stimulus cards (1, 3, 5) of the MPD test were studied. These subjects were from the Caro State Hospital for Epileptics. They had a mean age of 16.5 years a and a mean IQ of 61. In addition to the 3 MPD cards all subjects received medical, electroencephalographic, and psychological examinations.

The EEG findings were then correlated with MPD performance according to the scoring criteria for separations and distortions. Thirty-two subjects manifested EEG signs of left hemispheric damage, 26 of these separated the diamond circle stimuli. Thirty showed right hemispheric damage or undetermined lateralization or organic damage, 26 of these did not separate the diamond circle stimuli.

Both groups showed distortions about equally; however, 81 percent of those who showed distortion plus separation were shown to have left hemispheric focal damage. Of those who showed distortion without separation, 87 percent had right hemispheric damage or no lateralization according to their EEG examination. The mean IQ's for the two groups were not significantly different.

Distortion of stimuli proved a nonsignificant discrimination of lateralization and was associated primarily with EEG signs of occipital lobe involvement.

It appears that diamond circle separations of MPD stimuli can be used to determine hemispheric lateralization in most brain damaged retarded subjects. In those cases (N=10) in which this determination was not possible, the subjects yielded EEG signs of shifting lateralization.

Separation would seem to reflect a more serious impairment of perceptual motor functioning than distortion. Also it is possible that a dominant hemisphere for perceptual motor functioning exists. The results of these findings point to the intactness of the left hemisphere as being crucial to adequate perceptual motor response.

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ABSTRACT

PERSONAL ADJUSTMENT TRAINING FOR YOUNG ADOLESCENTS WITH LEARNING DISABILITIES

by

Sol Gordon

The greatest handicap of learning disabled adolscents is their difficulty anticipating the impact their behavior has on others--generalizing from experiences. This may be due to their isolation during crucial stages of learning. Furthermore, constant failure and criticism has led to in many cases a lack of self confidence,

a low self concept, and feelings of inferiority. To counteract this, a group of such handicapped youngsters can work together to overcome their problems--they can succeed in an uncompetitive group like this, in which they don't feel inferior.

Parent counseling in addition to counseling the youths themselves often proves valuable. Sex information is vital to the adolscent with a learning disability. It is sometimes advisable to obtain a tutor for the adolescent--not the parent, sibling, or teacher, but a high school or college student.

Handicapped young people, who are reasonably well adjusted psychologically, will function reasonably well as independent adults despite their handicap.

THE PRIVATE SCHOOL AND ITS PRACTICAL RELATIONSHIP

by

Edward G. Scagliotta

A Community Image

> Some parents have considered it necessary to send their (handicapped) children to private schools which claim special education services. It is possible under these circumstances for inadequate or inappropriate programs to be provided such children, sometimes at a high fee. Children and parents are victimized by the unsupportable claims of the directors of private educational institutions. [Commission on the Education of the Handicapped, n.d.]

--A reflection of an attitude, isolated perhaps, but nevertheless a published expression of position by a select group of New Jersey professional and lay citizens. More than once, these implied directors have borne the brunt of jesting colleagues in the public world who, through capriciousness, suggest personal prosperity and affluence as a direct result of the private circumstance. Mere association with a private educational enterprise seems to have become synonymous with some sort of unwholesome insipidness. This may be true notwithstanding the fact that in private education there are found many outstanding educators dedicated to and inbued with the spirit of adequately preparing the handicapped. These educators have been described and depicted as operators or manipulators in a derogatory manner as a result of their special ability to be most frugal and economical in managing schools and programs. Through no choice of their own, but simply to survive, they have had to become successful improvisators much to the envy and suspicion of their public cohorts. In short, as the quotation implies, the special private school may cast a shadow of doubt as to the integrity and trustworthiness of those who make such a system possible. Lifting this shadow to reveal the positive effects private systems have had in education over the years should be the goal of everyone holding true the philosophy that the public schools may not always be able to provide for all the individual human differences that come under their jurisdiction.

How, then, can this appearance of suspicion and question be converted to understanding and recognition? How can the private school present itself favorably in all circles?

The private school has been charged by society with the responsibility of creating an educational atmosphere acceptable to those to be served. What needs to be done is the establishment of educational guidelines and criteria exceeding anything conceivable by the public school to insure a portraiture eloquent to all. Leadership and innovation in special education, a forte of the private school, must be continually shared to strengthen people's belief in the permanent contributions made to the education and training of handicapped children.

Community Service

The community in which the school is geographically located should constitute an area of continuous involvement--involvement being the medium by which to introduce the purpose and direction of private education. Association with the general public has long been one of the primary objectives of the private school, especially in funding activities. Yet, such activities should by no means represent a single goal for community cohesion. Since the word community in itself means communicating and communicating means giving, then let the involvement take form as a leading contributor of service to the community at large.

Such contributions of worth may be administered in numerous ways. Consolidation of both public and private agencies for the purpose of sharing problems and their possible solutions not only allows for professional exchange, but also for the establishment of mutual respect for what each is attempting to accomplish. Meetings of interdisciplinary agencies and the ensuing discussions may aid in the internal betterment of a participating member as well as fulfill or improve a public need. For example, a salary for professional services may be representative of a major internal agency problem while policy in biracial adoption of children may be of direct community concern. Nevertheless, their solutions, jointly established by both the public and private agencies, does much to bring the rendered services of the private school to the attention of the public layman and professional.

Every private school would be wise to have its own speaker's bureau composed of erudite and astute staff members capable of reaching all levels of communication. These courtesies, delivered gratis, may be extended to groups of a civic, fraternal, or professional nature. Speakers had better not always be concerned with selling the school, but rather present their subject in a nonsolicitous manner, being as impersonal as possible. To disseminate information ought to be the objective.

It goes without saying that the private school should continually serve as a community resource and referral agency. In the event a direct benefit cannot be afforded, it becomes paramount that the private school make every effort to appropriately guide an inquiring individual. Many lasting friends have been gained as a result of a courteous and considerate concern for the casual or frantic caller seeking help.

Exposure to the public may be experienced by participation in the formal dissemination of information. Through a voluntary association of sponsoring public and private agencies an annual colloquy or symposium bringing to light current issues in special education is feasible (Symposium, n.d.). A conference of this nature may be geared to specific and sophisticated audiences of teachers, psychologists, social workers, physicians, etc., or be all inclusive, implying parents as well. Either way, information is brought to the community with a private school as a contributor and partner.

Information propagation need not always be a joint enterprise. Occasionally an individual school may have a direct special service to impart. Such is the case of The Stevenson Resource File, a collection of confidential data supplied by invited private schools offering special accommodations and facilities. This contribution is dispensed without cost and is willingly forwarded to schools and public welfare agencies on request. Other schools have opened their doors to the public for the purpose of demonstrating special techniques, methods, and material , while still others have initiated periodic workshops to share unique abilities with their public colleagues. It is not at all uncommon for the private school to be a community leader of special education by providing inservice teacher training programs, many times with college or university affiliation, resulting in graduate credits for the participant who completes the program successfully. Information sessions for parents on a scheduled basis, with an established course of study, again open to the public, have met with success on local levels (Scagliotta, 1965).

On occasion, theprivate school has been parsimonious with experiences and knowledge, guarding their successes with the utmost secrecy and allowing only visitations of short duration. Or, if these successes are genuinely shared, they are done so at a cost to the recipient. Neither practice endears the private school to the community. Professionals wishing extended study in a private facility should be accommodated and incorporated into the general scheme of the school's operation, thereby affording the opportunity to be absorbed in the system without upsetting the established schedules and routines.

The lament, "publish or perish," has generally been associated with institutions of higher learning, but it can also appropriately apply to the private school. What better way is there to communicate the educational story, device, technique, method, or program than through the media of the professional journal, monograph text, or educational development laboratory? In this way publishing or developing imparts a community benefit as well as bringing the private school to the attention of the professional and the well versed parent. Outstanding contributions by the private school personnel in the field of special education are commonplace and are reflective of the prominent learning innovations developed in this nation. These productions are the result of extensive academic freedoms and independence of consideration not always made possible at public centers controlled by taxation and citizen sentiment. Through the freedom of academic pursuits, the private school has emerged as one of the nation's leaders and developers of contemporary special educational thought.

Utilization of Community Resources

Education need not be confined to the four walls of the school building. Reaching out into the community and tapping the general and specific learning resources inherent to all towns and cities helps open up the real world of living to handicapped children. Often denied exposure to these experiences by parents incapable of coping with their children in public places and facilities, these children look to the school to make such visits possible and cognizance meaningful and useful. After all, this is what education is about--to bring first hand to the child a living learning environment. In this way, the community, with its firehouses, library, civil defense, museum, government, radio and television stations, businesses, and industries, becomes a laboratory for learning.

Communities are also made of adults--people other than the child's mother and father. These people, too, have a stake in the education of the child. Yet, often the child, because of his sheltered environment, has not been introduced to other personalities and consequently may be unable to properly associate and relate. In bringing community resource people to the school the child is exposed to "real" people, other than his teacher, who can assist in providing experiences based on their individual skills. It is these people who bring to life the textbooks that some children are unable to manage. The adult participation in the child's welfare will in turn mirror an attitude toward the school as well. If the involvement is satisfying and empathetic their message will be carried to the community far and wide, a testimonial difficult to surpass.

Communities are also made of children--children other than the child's handicapped peers. These community resource people should also be brought to the attention of the handicapped, and vice versa. Sometimes it becomes easier for children to work together, sharing and helping, with reciprocity as an outcome. The "buddy system," a pairing of a handicapped child with a normal peer, has been an enriching, rewarding inspiration beneficial to both parties. Such a partnership results in a mutual respect in developing a workable situation between two opposite but not opposing individuals. The buddy system works both in the school program as well as in the recreational areas in the community itself. Modifications of this pairing system have been widely and successfully used in a variety of learning experiences.

Groups of people, some who never set eyes on the school or children, may respond favorably toward the educational program. These people are representative of many diversified service groups in the community. Their contributions may be in the capacity of collectors, duplicators, reproducers, or innovators of needed materials and equipment. Although their efforts are geographically apart from the school, they are close to the hearts of those who count on their keen interest and support.

In tapping community resources, the private school is offering its children, staff, and educational and therapeutic program to the scurtiny of the citizenry. By doing this, the school, in essence, is asking the public to evaluate through personal involvement, with the purpose being the conveyance of their thoughts, feelings, and final judgment to the community at large. It is hoped such assessment will always be unequivocal.

Physical Appearance

Although most certainly of secondary importance is the physical appearance of the private school, it still requires consideration here for it does create an impression on initial contact. Too often, due to expediency and cost, private educational programs are found in church rooms, basement storage areas, unoccupied stores, and frequently old mansions. Adequate as these may be for physical comfort, they do, by no stretch of the imagination, exemplify a school.

Stereotypically, a school is composed of classrooms, usually on either side of a corridor, drinking fountains in the halls, a nurse's room, flagpole, administrative offices, a well equipped playground, etc. In other words, the public has established in their minds preconceived notions of just how a school should look. Anything less may create an uneasiness about what is going on behind the walls. Therefore, it behooves the private school to make every effort to adapt their physical structures to the general public concept.

Of more significant consideration is the physical impression made on the handicapped child who will use these facilities. He may be sent to a school which structurally has no relationship to his idea of what a school is. This concept may further support his feelings of defeat, inferiority, and rejection resulting in a negative attitude toward his educational pursuits. He needs, much more so than any other child, a feeling of belonging to a "normal" environment. The very physical edifice can do much to elicit positive behavior.

Epilogue

The purpose of discussing the special private school in relation to the greater community stems from a paucity of recognition of the tremendous need and value of this institution in society. Too many adverse inferences have been made. The time has come to reveal the true colors of private education and reap the just rewards. In order to accomplish this, let us strive in our daily associations with the community and its people to continue to make the private school a dignified and stately image, a master teacher of the handicapped, and a noteworthy innovator of special education.

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ABSTRACT

A PROGRAM OF LANGUAGE REMEDIATION

by

Douglas E. Wiseman

A spectacular increase in the recognition of the role language plays in learning has been due in large part to the introduction of the Illinois Test of Psycholinguistics Ability (ITPA). The ITPA was developed to systematically evaluate the language performance of children, identifying areas of relative strength and weakness. The experimental education of the test was first published in 1961; a revised and expanded version was recently introduced. Seven years of clinical and research experience identified portions of the test needing revision. Improvements and modifications were made, including the addition of three new subtests to the original nine.

A vacuum has existed, however. No remedial program patterned after the ITPA was available. Diagnostic information without remedial recourse is of limited value to the teacher. Needed was a language program that could be prescribed when specific problems were pinpointed by the ITPA. The Language Disabilities Program by Minskoff, Wiseman, and Minskoff (MWM) is an effort to fill this need.

The MWM program was developed to serve as an educational counterpart to the ITPA. The ITPA is used to identify problems--the MWM language disabilities program is used to remediate problems. The ITPA indicates areas of language deficit and provides an indication of the relative level or severity of the problem. The MWM program has been developed to meet the linguistic needs of children by providing appropriate activities in each of the 12 language areas and at graduated levels of difficulty, from the most basic tasks to high level conceptual tasks. For example, if the ITPA identifies an auditory reception problem, the program has sequentially developed activities available for instant use by the teacher. A severe disability on the Auditory Reception subtest may indicate a low level problem such as auditory discrimination. If the auditory reception disability is at a higher conceptual level, however, activities in listening such as following directions, understanding conversation, and so on, are available. With the introduction of the MWM program, the directive, "diagnosis must lead to remediation" becomes possible.

VISUALLY HANDICAPPED

ABSTRACT

MULTIPLE IMPAIRMENT AND TEACHER EDUCATION IN THE AREA OF THE VISUALLY HANDICAPPED

by

Georgie Lee Abel

1. The Teacher's Committment to the New Population. Is there a genuine interest in child study rather than in the feedback which must come from success in subject matter areas?

2. Are there barriers in credential and certification programs which make for a program much too rigid in its specialized course content and directed experences?

3. Are colleges and universities able to provide flexible enough programs to make possible greater integration of subject matter to help sutdents in the specialized aspects of the area of the visually handicapped and the important relationship to such areas as learning disabilities, models affecting changes in behavior, and information from social service, as well as medical information related to education of these children?

4. What about the all important laboratories in which teachers must gain observation and directed experiences with severely impaired children who experience problems complicating their functioning with a visual loss: clinics, hospitals, classrooms in local schools, and in institutions? Are we allowing for greater exposure as early as possible in the college or university program where volunteer work and directed observation are supported by meaningful seminars?

5. Are departments of special education involved in planning for individualized programs for each student whereby a sequence of experiences, as well as courses, may be planned--with greater use of media, sitting in on important evaluation sessions in hospitals, schools, and social agencies--with the purpose of increasing the sampling to be observed and also to see all types of direct service persons at work, in addition to the teacher and psychologist as the only people assisting in finding solutions affecting not only the child but his family as well?

6. Are the institutions providing opportunities for students to be involved in case finding problems, identification and placement, as well as the social action which must follow studies primarily involved with studies of the extent of the problem in a community?

7. What obligation does the institution have for institutes, conferences and creative planning sessions, both in the college and in the community, where there is a greater working relationship with administrators? The prospective teacher can know at a much earlier time some of the practical problems in administration and perhaps how a changing role on the part of the teacher can be developed through a continued search for more information concerning each

child, more consultation from others as teacher consultants, supervisors, and the assistance by teacher aides.

8. Are those already prepared, in perhaps too rigid a sequence of courses dealing with the visually handicapped, able to reach outside their specialized areas for information which may bring about greater change in their procedures as they study and work with children who have complicated problems in addition to visual handicaps? Can they become excited enough over the study of a child to forget some of the catagories which seem to divide knowledge concerning children with very high, thick walls? Can we understand the all important sensory deficit related to loss of sight as well as varying degrees of residual vision with all its psychological and sociological phenomena and yet realize that much of this type of knowledge and insight, as well as the technology and methodology, have just as great a relationship to many of these children as to those who formerly performed at average or above average academic levels? Were some of the real problems of some of these other children over looked, perhaps because teachers and administrators were so proud of their academic achivements?

9. Are teachers, perhaps, going to have to function more like clinicians with more sophisticated child study procedures and psychological evaluation?

SOME OBSERVATIONS IN THE SELECTION OF VISUALLY IMPAIRED PERSONS FOR ENROLLMENT IN COLLEGE

by

Walter C. Fitzgibbon

Acceptance of a student by a college is primarily based upon an applicant's academic performance in high school and in tests related to academic potential, knowledge, or skills. It is quite difficult to assess the validity of the performance of a visually handicapped applicant. There is little doubt that in some instances the academic, mental, or personal inadequacies of a visually impaired applicant may be explained with undue emphasis upon the limitations of vision; in other instances, the implications of a visual limitation may not be adequately considered.

More accurate evaluation may be made by reducing the difficulty encountered in specific problem areas when the difficulty is due to the visual impairment. Some of the problem areas can be isolated through analysis of data and the procedures for obtaining the data.

It is the purpose of this paper to present some findings of an analysis of test and grade achievement of visually impaired college freshmen. The data were obtained during a five week program conducted during a regular summer session at Western Carolina University.

Twenty-two recent high school graduates who were clients of the Rehabilitation Division of the North Carolina State Commission for the Blind participated in the program. Fourteen of the students were males and eight were females. Within the group of ten students classified as blind were four females and six males; the partially blind group contained four females and eight males. Thirteen of the students had attended a public high school and nine had attended a residential school. One student was 20 years old, five were 17 years old and the remaining were 18 or 19 years old.

Each participant was enrolled in the university as a bona fide student and enrolled in the same course sections attended by sighted students. As part of the program, each student enrolled in a one quarter hour course in freshman psychology and a five quarters hour academic course from the fields of biology, English, German, geography, geology, history, and mathematics.

The instruments and data used for the analysis pertinent to this paper were as follow:

1. The WAIS Verbal IQ was obtained just before the initiation of the program by a psychologist at the high school or at an evaluation center.
2. The Handicapped Edition of the SAT was administered by the high school counselor.
3. The high school grade average was used.
4. The Cooperative English Tests were reproduced in large print and administered to the partially blind students without the time restrictions by program counselors during the first week of the program. The blind students did not take the tests due to errors made in transcription.
5. The Cooperative Mathematic Tests were administered to both vision groups by program counselors during the second week of the program.
6. The final grade in the college academic course was used.

Administrative modifications for the cooperative tests, in addition to removal of the time limits, included the use of tactile aids by the blind students to solve problems involving graphs and figures and the use of magnifying lenses by the partially blind. Another modification was that the blind wrote the formulas, equations and complex directions in Braille as they were presented orally by the examiner.

The academic success of the students in college was very encouraging. Two-thirds of them (14) received an A or B and only three received a D or F. (There was one unsuccessful student in each area of English, foreign language, and history.) To gain information about the validity of the grade, i.e., whether he was "given" a grade, a conference was held with each professor about the course and the student's performance. The conference revealed that the variation in the course content and difficulty, attitudes of the professors, and grading criteria commonly found in school achievement grades were refelcted in the grades received by the students, but there was clearly no evidence of a grade being "given". Thus, the position appears to be supportable that the grades were "earned" and could be accepted as representative of the grade the student might be expected to attain in a similar situation.

Analysis of the data collected led to the conclusion that neither the high school grade nor the results of the tests were in agreement with the college grades. The college grades were similar to the high school grades only for the partially blind frmales. The scores in the tests and the college grades were in agreement for approximately 50 percent of the partially blind students; the test scores would have resulted in an underestimation of the college performance of one-third of the partially blind, and almost all of the blind students. Further, while the high school grades tended to be in reasonable agreement with the verbal IQ scores for all of the students, there was considerable variation in all groups between the verbal IQ and college grades. A related finding was that the blind students in the IQ range of 120-125 performed as well on the SAT as partially blind persons in the 100-110 IQ range.

An error analysis did not support a theory that failure on the items was related to the test administration procedures. Nor was evidence found which suggested that failure was due to limitations in concepts, as evaluated by the tests, which were explainable by a visual limitation. Apparently, the pretesting analysis of items and the resultant use of tactle aids and the administrative modifications noted earlier did provide a useable measure of the concepts and skills within the tests.

The females, as a group, were less adequate in math than the males. The difficulty appeared to rest in the application of math skills rather than in errors in the concepts held. Of the males, the blind students were not only less adequate in math than the partially blind, but their math performance was far below their performance in verbal type test items. The error analysis and discussions with the blind students revealed that math concepts for them had been developed from verbal cues rather than from the tactle cues presented in the use of models and other aids.

The partially blind females were more successful in the tests of verbal skills and concepts than any of the other students. It was found, however, that all of the students were weak in spelling, grammar, and vocabulary fluency and preciseness.

From the results of the tests administered and the analysis of the errors, the following educational implications seem to be evident.

1. The adaptations made in the administration of the tests were attempted to be those which could be made through reasonable forethought and planning by examiners having limited experience in testing visually impaired persons and having little access to specialized materials. In addition, the adaptations were made only to the extent so as to make the test useful for a blind person. It would seem that similar adaptations of tests are justified for some educational purposes. Therefore, examiners might be well advised to make a pretest analysis of tests to be used and make adaptations which may be necessary.
2. The modification of testing procedures, especially in removing time restrictions, frequently invalidate the test results for comparative purposes with the standardization norms. This limitation must be clearly recognized. However, there appears to be a need for more testing in which the purpose is the discovery of problems faced by the student with a visual limitation. Appropriate modifications should, then, be made in his educational program.
3. Untimed test performance of visually impaired students cannot be directly compared with the performance of sighted students who took the test with time restrictions. Many things, including vision, could influence the results. For example, speed and flexibility in performing a task are often the critical determiners of test performance rather than the difficulty of the problem. An explanation of performance difference between a blind and a sighted student in such tests would be inaccurate if based only on the amount of vision.
4. Math does not need to be viewed as an almost insurmountable barrier for visually impaired students, including those who are blind, if they possess the

mental ability necessary for success in math. There was no evidence of limitations in concepts which were directly related to the visual impairment. There is clearly a need, though, for more use in high school of tactile aids which are readily obtainable or easily made. Another problem discovered was that of recording data as related to equations or formulas. The technique of having the students write them in Braille as they were read proved to be satisfactory. The same technique can easily be used.

5. The limitations of the students in spelling and grammar were clearly associated with inadequate emphasis upon these skills in school rather than being explainable by the visual limitation or lack of techniques available.

6. No deficiency was discovered in the basic verbal concepts developed by the students, but there were notable weaknesses in vocabulary fluency and preciseness. It would seem therefore, that visually impaired high school students did have adequate opportunity to develop the basic concepts fundamental to advanced study. However, there appeared to be a limitation in the breadth of vocabulary so as to restrict variation in word choice, expression of shades of meaning, and precise expressions.

7. Students may perform better than might be expected from test scores when they are enrolled in courses which require the learning of a relatively new vocabulary or new skills. The vocabulary limitations which were observed might handicap them in courses which are based upon a prerequisite vocabulary level. For example, a student's performance in math may be better than that expected from test data due to the novelty of the technical vocabulary and skills which he is expected to learn, rather than a dependence upon a prerequisite broad general vocabulary. On the other hand, the student's performance in history may confirm results from tests of a verbal nature to the extent that it depends upon a prerequisite broad general vocabulary.

8. College success appeared to be more related to vocabulary fluency and preciseness than to the total score on an intelligence test. Thus, an analysis of test performance, rather than the test results, needs to be considered if a verbal IQ is to have use as an indication of expected school performance.

9. Students with moderate deficiencies in vocabulary fluency and preciseness might be more successful in college than test results indicate partially because of the availability of context clues in college. Tests frequently contain vocabulary items with minimal context clues. In college, the vocabulary development is enhanced by the total environment. Even more important is the opportunity in college to join conceptual clues through class discussion in which specialized terms are used or unfamiliar items are used in a specialized way.

10. Students with relatively severe vocabulary deficiencies may be less successful in college than might be expected from test scores and high school grades. The discrepancy may be partially related to differences in grading at the two levels of education. It may also be partially due to the level of the student's vocabulary development--his vocabulary was adequate for basic concepts at the high school level but too deficient to permit him to expand it rapidly enough to compete in college.

11. The discrepancies between the test scores and performance in high school of the partially blind students suggest that such students have considerable difficulty in meeting the amount of required daily work, and unwarranted assumptions seem to be made that they have had the same opportunity as sighted students to develop fine vocabulary differentiation skills. In addition,

there is clear evidence that their school averages are unjustly reduced by courses, such as the laboratory sciences, which do not adequately provide for their needs. Thus, the actual limitations of the visual impairment should be carefully ascertained for each partially blind student and appropriate modifications should be made in enrolling a student in a science course for example. Certainly, the variation in making modifications in high school course requirements strongly supports a suggestion that high school averages be ignored and careful consideration be given to analysis of strengths and weaknesses in subject areas.

12. In conclusion, the performance of the visually impaired students who participated in the program was more related to verbal fluency and personal adaptation to the demands of college study than to academic measurements or evidence commonly used as criteria for selection of students.

WORK EXPERIENCE PROGRAM FOR THE VISUALLY IMPAIRED

by

Jerry McGee and Jean P. Edwards

The state of Oregon has long enjoyed a role of leadership in the education of the visually impaired. The so called "Oregon Plan" of integration is no stranger to those of you involved in the education of the visually impaired. The Portland Cooperative Work Experience Program began in 1965 with Title I funds from the State Department of Education. The following two summers the funding was a joint effort by the Portland Public Schools, the State Department of Education and the Oregon Commission for the Blind.

The overall objective of the Work Experience Program was the preparation of students for a responsible role in the community. It was recognized that not all of our blind students in the past had been able to become completely self sufficient even though they were very capable persons. In doing an analysis of some of the reasons for the blind child being excluded from the world of work it was discovered that they lacked the prevocational skills necessary to seek and obtain a job. They had very little knowledge of the "work a day world" and its expectations for them.

So the project was an attempt to meet these needs and provide high school juniors and seniors with the prevocational skills that take into account the realities of the world of work and their commitment to it. It was recognized that not all students would be able to become completely self sufficient as a high school junior or senior but that a beginning could be made to evaluate the student and carefully plan an experience which would help lead to another step which would finally help them to utilize, develop, and function at their highest possible level.

Vocational training and evaluation was seen as a progression through a series of steps, beginning in the primary grades and culminating in successful placement in an appropriate work setting following the completion of school preparation whether that work setting be a sheltered workshop, a professional job, or some work setting in between. Whatever that job was to be, there were some goals that were felt to be common at all educational levels:

1. Self care

2. Interpersonal relationships

3. Positive attitude toward work

4. Development of physical abilities

5. Development of good work habits

6. Strengthening and improving the self concept

Specific to our high school work experience:

7. Exploration and evaluation of job possibilities in the community

8. Realistic self evaluation

9. Evaluation of work habits through classroom workshop experience

10. Investigation of service agencies and labor laws

11. Development of skill in job application

12. Job exploration through travel and visitation

13. Evaluation of jobs through contacts in the community

14. Ability to handle pay, travel, and personal relationships

15. Application for a job

16. Successful employment and training.

With these goals before us the project began the week following the termination of the regular school program for the summer. For the normal blind teenager our program begins each year with a two week workshop in a public school. During the two weeks a great deal of work in skill development in typing, writing job resumes, writing letters of various natures, and applications of all kinds is presented. Role play job interviews with real employers from the community, who interact with students regarding various types of employment, is an integral part of these two weeks. The students study income taxes, labor laws, take field trips to the labor bureau and get a labor permit, go to the Social Security Commission and get a Social Security card, and discuss the specific benefits of social security. Bus routes are worked out and bus passes are obtained. Job possibilities are explored through special visitors, field trips to industry, "brain storming," and discussion. Many discussion and role playing experiences in punctuality, dress, grooming, responsibility, deportment, ability to get along with other employees, and ability to adapt to job requirements are examined with the youngsters. Through the discussions, field trips and guests, a positive attitude toward work is developed that takes into account the realities of the working world and its demands. The students travel in small groups into the downtown Portland area, going to the post office, labor bureau, large department stores, colleges, and state office buildings in order to practice some of the learnings regarding bus routes, etiquette, and orientation.

As the final week of the individual student's workshop phase is entered into, the work coordinator talks over the student's self evaluation and placement goal. Together the student and coordinator explore some ideas of places to seek work. Then the student makes arrangements to have a job interview by phone or through a letter of application. He meets with the personnel man, and he is either hired or not on his own merits.

Once placed on a job the work coordinator visits frequently to discuss successes and concerns with the student and employer and to continue to survey and develop new job possibilities. An evaluation form is used and employers' evaluations and suggestions become a part of the student's final evaluations.

Concurrent with the work experience program, parent discussion groups are held one night a week for the parents of the work experience students and other parents of blind children so that they can interact with professionals who deal in various areas of rehabilitation and training. Other evening meetings also bring the work-experience students together for discussion of common experiences on the job and for greater exploration of the job world through the sharing of experience. These parent meetings give excellent opportunities to help parents of young children begin working with their children at home with some of the developmental skills necessary to prevocational training.

An Orientation Mobility Specialist works with students, along with the Coordinator, in helping students develop travel routes and skill in traveling freely on bus transportation to and from work. Many students have difficult bus transfers to make in the heart of the city, but with the help of the Mobility Specialist most are able to travel independently.

It is exciting to report that there has been success in placement. Despite the overload of students, all have had the opportunity to work--several students having had several jobs offered to them. Several other students worked at more than one job during the summer. Students have worked in a large variety of jobs--from being a Red Cross volunteer, janitor, lawn maintenance man, dictaphone transcriber, typist, and farm hand, to receptionist and assembly worker jobs. Although the summer program with community placement has been successful, certain areas that have posed problems have been identified.

1. Some students have lacked the necessary adjustment to work and stay with tasks that are monotonous and dull without complaining. Some were unrealistic about what work is. Individual counseling and group discussions were not too effective although a few changes were noted. In these cases, it has been necessary to search for individual means of motivation. Parental support and exposure to the realities of the world of work are very necessary.

2. A closely related problem was that of the self image of the student as reflected in unrealistic job choices and lack of understanding as to what job requirements are.

3. Lack of parental support confused some students. Parents' goals sometimes were not in keeping with the student's abilities and experiences at this time.

Because of the identification of these kinds of problem areas, Portland has moved toward a full year emphasis of work experience realizing that prevocational skills cannot be developed in a couple of summers but that we have to work intensively with a child over a long period of time. Community people have joined with project directors in sponsoring "Charm Seminars" for girls, community field experiences, and vocational classes for junior and seniors.

The program is now in the third phase of development which makes possible the employment of a full time, year round vocational coordinator to work with the visually handicapped students--individually and in groups to supplement the summer workshop, work experience programs, and academic school program.

How successful was the program? We have now had three years in which to observe the original group. Although the project started with only 5 students, this represented all but one of the total population available within the age bracket agreed upon to be served. The number of students three years later was over 20. The original 5 were by coincidence all girls. Four of the five were totally blind and one had some travel vision. Partially sighted students were at first excluded. This situation has since been corrected to include the partially sighted. Although not one of the five had ever worked before they were all placed by the end of the two-week workshop. Four of the five were placed on paying jobs. A followup one year later found all five once again employed or taking work related training. Three years later it was found that four of the five were successfully placed with only one remaining at home. To understand just how good this really is, one needs only to refer to the Jiles followup study done by the University of Oregon on adult blind persons in Oregon, where they indicate that 68 percent of the adult blind in Oregon are not employed and are staying at home. By this standard, only one of the five girls would normally be expected to have been employed.

Helping visually impaired high school age pupils to find jobs and helping them to keep these jobs was an important function of the project. However, there were some other aspects of the total problem on which information was needed. Placing students was only one problem to solve. As it turned out, placement was the easiest part.

One of the major concerns was that of the some 30,000 different occupations listed by the Department of Labor in America some 6,500 do not require vision or only limited vision; however, over 85 percent of the visually impaired who are employed are employed in fewer than 80 of these various occupations.

Every effort was made to place the students in jobs not usually associated with blindness, such as a tool sharpener as opposed to caneing chairs. We found this restriction of jobs to be circular, i.e., the public associates the blind with certain jobs or vocations; the blind in turn seek jobs identified with blindness. It is easier. The people responsible for placement, rehabilitation counselors, etc., cultivate these placements because, again, it is easier. Their clients even appear happier at first on such placements. What better place to break this circle than in a work experience program?

It would appear as though people responsible for vocational counseling and placement of the visually impaired have only a two track mind. One group of blind are pushed toward college and the professions, the other group is relegated to sheltered workshops of which the concession stands are a mere extension.

A large number are consequently overeducated and are unhappy; and a large number are undereducated and are unhappy. What about the vast number of highly desirable vocations that are not professional but are not sheltered workshops either, which lie between these two extremes?

Another problem to be investigated was placement availability. We felt there were six factors involved in a good placement:

1. The placement must be conducive to good work habits and attitudes.

2. The job must be a "real" job; not a make work type of job. (This is particularly true if it is a nonpaying job)

3. There must be adequate supervision.

4. The work conditions must be safe.

5. Vocational potential is a consideration, but it does not override a good work experience.

6. Whenever possible, remuneration should be considered as incentive, plus making a job station more realistic.

How many places are available fitting all of these criteria? It was soon found, in the case of the blind, what had been discovered to be true in work experience programs for the retarded. There are many suitable placement locations. Each year we could have placed more if we had had them. Should you launch such a program, finding jobs will not be your biggest problem.

Another task that was attempted and which is worthy of mention was the identification of prevocational skills that should be mastered before entry into a work study program. Many counselors and teachers of the visually impaired assume that their charges possess these basic skills. We assumed this and we were wrong. For example, in the area of making change, every one of the students made change by mental substraction rather than by the far superior method of adding up. In the area of typing, some of our girls had been typing since the third grade. All had at least two years of typing. Therefore, one would assume that they could type. The best typist was only marginal, however the reason this was so will be examined later.

The inability to sign their names in an adequate manner was another skill that they lacked. Their complete lack of familiarity with forms, applications, etc., was a time consuming factor. Obtaining a Social Security card and bus pass consumed more time. These are samples from our list of prevocational skills and needs. This list was prepared and fed back to the regular school year teachers. It was requested that each item be carefully checked off prior to the summer involvement in the program.

Now, as to the question, "Why aren't they getting these skills in the regular school program?" It would seem that the overriding reason is that the school program is so full of academic offerings and requirements that there are not enough hours in the day to give all that is needed to keep our people up with their regular school counterparts and still provide time for these other skills. One solution, the one Portland is using, is to extend the school year from nine to eleven months. For some of the blind students summer is a joyous time of outings with their family, trips to the coast, etc. But, realistically speaking, to a far greater majority of them, summer is lonely and hot; a time to waste and to regress. This is the time to give them that extra shop, art, music, or work experience.

There is something more devious working here than the mere lack of time, however; a case in point is this. The girls were not able to type after having had typing for several years. Sufficient time had been spent. The effort was taken to contact one of the girl's typing teacher. This particular teacher had given the girl a "C" on her report card. When quizzed as to whether he believed that the girl was an average typist for a second year typist, he said that she was not even a good beginning typist. Why the average grade? His answer, "I admire that little girl's spunk. She came in here every day and tried hard. I don't believe in kicking a person when he is down."

Indulgence, overprotection, and sheltering--afraid to expose the pupil to failure. There are few things more debilitating to a handicapped person than indulgence. In this case indulgence was more debilitating than the blindness. The girl was intelligent. She could have corrected her poor methodology in typing had she been informed of the fact that her typing was of poor quality.

In our program, we pledge to ourselves and to our subjects, no indulgence. Help? Yes. If they have the ability to do it right, then accept nothing less. Failure? Certainly. The ability to cope with failure is learned. The techniques to cope with failure can be taught. For example, we would become aware of a job placement. Two or three girls would be sent to be interviewed at different times. Only one could be offered the job. Two would be turned down. They all knew it when they interviewed. From their moderate failure, there was much to discuss. Why did Mary get the job? Let's go over the interview and see if it was anything we said or didn't say, etc. Role playing becomes quite realistic at this point.

In the world of work, a blind person must be better than the average worker. He must learn to compete. He must be given the chance to compete intellectually and physically. Of course, when a person enters competition of any form he must be prepared to lose and he must be taught the coping mechanisms when failure does occur, or the whole point is lost.

In conclusion, it is felt that most aspects of the program were highly successful. It is felt that certain aspects are worthy of duplication by other districts. Undoubtedly it can be improved.

Now is the time for you to prepare your own model. The one that will work in Portland may not be suitable in Pittsburgh. This description of one model was intended to be nothing more than a point of departure for you as you prepare your work experience program for your own community.

In the past we have said, "If we only had money and support we could do this or we could do that." With Title VI, Title III, PL 85-926, and now the Vocational Education Amendment, we have the money. Now we need ideas and leadership.

ABSTRACT

THE ADMINISTRATION AND ORGANIZATION OF THE NONGRADED SCHOOL

by

Robert C. Whitsitt

It has been found that the traditional school fails to reach many students. This is because schools do not change their instructional patterns in spite of expanding community pressures. The nongraded school could be a more appropriate and successful school organization.

Advocates of nongrading have not agreed on enough critical issues of organization to create workable models for general use. Most nongraded schools cannot be effectively evaluated. For this reason a model of organization is presented to show the critical elements in terms of the smallest unit of instruction, the classroom. This unit is seen as a dynamic center of pupil-teacher behavior. This behavior is reflected in terms of the classroom as an information center. A clear distinction is made between the processes that contribute to individualized skill learning and the processes of group interaction that lead to productive thinking.

The author supports and presents a process for grouping or selectivity of membership for the classroom on a heterogeneous basis. Particular attention is given to consideration for disability learners and the disadvantaged. He avoids grouping by achievement in one or more subjects and supports a weighted balance of maturity factors that emphasize mental age and the child's stage of social development. The importance of independent study and phases in secondary instruction similar to the plan of Dr. Frank Brown are encouraged.

The most trenchant effort is given to expressing a more valid nongraded basis for evaluation of an individual student's vertical progress. The model diagram depicts a constant flow of behavior from individual incremental steps to points of contact with other group members. Much of the measurement centers on what happens at these intermittent contacts. It is stated that at these points we either see a big gain in the integrative process or we see a disintegrative process in which the work of the whole group is disturbed. A plan is given for considering the incremental progress as either significantly forward moving or not. A heavy premium is put on the productive outputs of students that show progress in self motivation. Equal value is given to affective objectives as well as cognitive objectives. All students are looked at as having elements of creative power to be developed.

The paper gives attention to the leadership role of the administrator and stresses the need for consistency of leadership in a community over a reasonable period of time. Inservice training is recognized as a must. Teachers are often well prepared in content, but they are less familiar with skill instruction, they lack techniques for the use of media, and they have insufficient experience with students of different cultures. Another problem recognized is the burden placed on all teachers to have the time and the desire to prepare individualized activities and do the curriculum planning needed where team teaching and the flexible movement of pupils is encouraged.

Nongrading is a dynamic structure of behavioral instruction that is pictured as harder and more demanding in teaching skill than other patterns. It is also pictured as the most rewarding opportunity for teachers to be effective in their instruction of individual pupils.

ABSTRACT

COMMUNICATION PROBLEMS AND PRACTICES IN THE DEVELOPMENT AND ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS AT VARIOUS OPERATIONAL LEVELS

by

Thomas R. Traynor

The community and the school are inseparable. The schools today more than at any time in their history must, and in many instances are, being forced to recognize this condition. There was a time when it was accepted that the schools were doing their job. It was rare to hear of a parent questioning the educational system. This is no longer true. Parents are concerned; they are active; they want to know what is going on. They are concerned about the low achievement of their children. They are concerned about the curriculum offerings. They are concerned about the teaching process itself. In the area of textbooks and instructional supplies, they are demanding that the pluralism of our society be fairly represented so that every child has the opportunity to see himself and to share in the history of his people. These demands are most reasonable and just. School systems are listening and beginning to do something about them.

There are a multiplicity of reasons for such concern, and one of the major ones is the poor job schools have done in interpreting their role to the community.

A COMPREHENSIVE EVALUATION, THERAPY, AND ACADEMIC TRAINING PROGRAM FOR HANDICAPPED CHILDREN IN A SPARSELY POPULATED STATE

by

Everett D. Peery

I appreciate the opportunity to describe the program of the Montana Center for Handicapped Children. This is not, as you will see, comparable to the tremendous programs in existence in some of the larger cities and states. It does fulfill a very definite need and is somewhat unique in the diversity of functions which are included in one administrative unit.

First, I would like to give you some background about the state of Montana. It is the fourth largest state in the United States with a population of only slightly over 700,000 people, giving it a population density of about 4 1/2 people per square mile. The two largest metropolitan areas, Great Falls and Billings, each boasts a population of approximately 75,000 people. Montana sits astride the continental divide and is the source of rivers which send their waters into the

Pacific Ocean, the Gulf of Mexico, and Hudson's Bay in northeastern Canada. The people of the state of Montana retain a great deal of the pioneer spirit. They appreciate the opportunity to live in the Big Sky country and enjoy the advantages of our extensive outdoor recreational opportunities.

Programs for Exceptional Students

Much progress has been made in recent years in our programs of special education. Our public schools now provide 109 classes for educable mentally retarded children and 8 classes for trainable mentally retarded. This compares with about 8 classes for mentally retarded 10 years ago. Eighteen school districts in the state provide speech therapy. One school district has a classroom for hard of hearing children, and there are four classes for physically handicapped children in the state. Easter Seal Speech Centers and the Elk's Mobile Speech Clinic provide some additional speech therapy. There is a state residential institution for the mentally retarded, and a state residential school for the deaf and blind.

The Montana Center for Handicapped Children

Background. The center was established in 1947 as a Center for Cerebral Palsy. In the beginning it provided only speech therapy and physical therapy for cerebral palsied children in five counties in the state. As the program developed and evolved, services were extended to all handicapped children, and the name changed to The Montana Center for Handicapped Children. It is sponsored by three agencies: (a) The Montana State Department of Health is primarily concerned with the medical-clinical programs. It provides the bulk of the salaries and operational funds for the center. (b) Eastern Montana College is primarily concerned with the teacher training functions. It provides the housing for the center as well as funds for salaries and general operation. We are at the present time looking forward to the construction of a new building which will allow for needed expansion and development of the program. (c) The Billings School District is concerned with the educational program for the handicapped children. It provides part of the salaries for the teachers, transportation of the children, and the educational materials and supervision of the special education school program.

Program of the center. There are four primary areas of our program: (a) The school includes preschool for children from three to six years of age, a primary class, and an intermediate class. The school provides a flexible, individualized special education training program for children with a wide variety of handicapping conditions. Physically, medically, orthopedically and multiply handicapped children, as well as children with communications problems, may be included in the school program. Children from any area of the state may attend the school. Those who do not live in Billings may be placed in foster homes while enrolled at the center. (b) The children in the school receive the therapies they require including speech therapy, physical therapy, occupational therapy and play, or psychotherapy. (c) College students in the special education training program at Eastern Montana College are assigned to the center as interns, student teachers, volunteers, or in a work-study program. Nurses from the training hospitals attend and observe in clinics, and therapists come for orientation and observation. Various members of the center's staff teach college classes and serve as visiting lecturers. (d) Our clinic program includes Medical Clinics, Cleft Palate Clinics, Mental Retardation Evaluation Clinics, and Speech and Hearing Clinics.

The team approach is basic to our philosophy with communication between the members of the staff and between the members of each of the teams of the various clinics being of utmost importance. Intrastaff communication is on a formal and an informal basis with many discussions taking place during coffee breaks and incidentally throughout the day. Staff conferences, parent conferences, small group conferences, and a staff retreat are scheduled for the formal exchange of information and the encouragement of intrastaff communication.

Sequence of a medical clinic. When a child and his parents come to the center for a Medical Clinic, they are met by the recpptionist who confirms their appointment. The parents are then interviewed by the public health nurse who is the coordinator of patient services. She secures the medical and social history and other background information. The child may at the same time be seen by one of the therapists or by the psychologist. The psychologist uses an appropriate battery of tests to determine the level of mental function and discover possible adjustment or personality problems. The child is seen by the physical therapist who is concerned with the use of the hands, hand-eye coordination, and activities of daily living. Speech, language, and hearing are evaluated by the speech pathologists, and the special education teacher sees the child for an academic evaluation.

The general staffing takes place on the second day of the clinic. The staff members report their findings to the pediatrician and the orthopedic surgeon who participate in the clinic. After the medical doctors have made their examinations the team develops recommendations for training, therapy or treatment for the patient. These recommendations are presented to the parents, and they are given an opportunity to ask questions and help to make necessary arrangements.

Other clinics. The format for the Speech and Hearing Clinics, Mental Retardation Evaluation Clinics, and Cleft Palate Clinics is much the same as for the Medical Clinic. The team members make their evaluations, report their findings, and help to develop the recommendations in consultation with other members of the team.

Team members for our Speech and Hearing Clinics include the public health nurse, the psychologist, the speech therapists, and the audiologist. The Mental Retardation Evaluation Clinic team includes a pediatrician, along with the public health nurse, the psychologist, and speech pathologist. Much parent counseling and followup work is done in connection with this clinic.

The Cleft Palate Program in the State of Montana is unique, having a single coordinator for the statewide program. There are four teams in the state, each serving an assigned geographic area. Our Cleft Palate team consists of a maxillofacial surgeon, an otolaryngologist, a prosthodontist, an orthodontist, a pediatrician, a medical social worker, a public health nurse, a clinical psychologist, a speech pathologist, and an audiologist.

Vocational Rehabilitation counselors, public health and school nurses, social workers from the Department of Public Welfare, and representatives from other agencies may be invited to participate in any of our clinics. Referral is made to hospitals or clinics for xrays, medical laboratory tests, neurological examinations, and other special clinical evaluations as required.

Conclusion

The program at the Montana Center for Handicapped Children provides a unique service in Montana with a school program for handicapped children, therapies, evaluations in the clinic program, and participation in the training of special education teachers. It is anticipated that the program will expand considerably when we are able to move into our new building. At that time we will be able to provide training in vocational rehabilitation counseling, special programs for acoustically handicapped, special programs for the neurologically impaired, and for children with adjustment problems as these programs are developed and evolved. The future is bright with the prospect of a new building, and we are looking forward to the opportunity to increase our service to the handicapped children of the state of Montana.

THE COOPERATIVE SPECIAL EDUCATION PROGRAM

by

Richard J. Kothera

Because of their highly individual needs, not all school age children are able to realize a maximum benefit from established regular school curriculum due to physical, mental, or emotional differences. Teachers cognizant of special needs and the methodology required to meet them, aid in the realization of human potential through special education services with resulting social adjustment and economic usefulness providing ample return for the investment made by the community in special education. Yet as this philosophy has developed over the years, it becomes apparent that only large school districts have the ability to provide space and utilize personnel with the fiscal stability necessary to establish and maintain well rounded special education programs. While the processes of unification and consolidation have expanded both scope and size of affected school districts, many are still not large enough to adequately maintain a complete program of special education. There exist unified K-12 school districts with less than 500 children. In some states in the southern portion of the middle west and southwest, areas are so sparsely populated it is almost an impossibility to establish and maintain more than a room housing materials and a sympathetic teacher who attempts to handle the problems of those children that cannot be adequately approximated in the regular classroom. If the needs of these children are to be adequately served, then specialized programs must be offered. But at the same time, how is the small school district to adequately care for these needs which, because of lack of enrollment, create a tremendous financial burden for the school district? One means of countering this problem of small school districts, other than continuous consolidation post unification, is the cooperative program, whereby adjoining school districts use the services of special education personnel on the basis of mutual cooperative agreements.

Exemplary in this area are shared speech therapy and psychological services as well as programs for the mentally retarded. Many school districts today,unable to afford the highly specialized personnel utilized in special education programs, have joined together with one district maintaining the paper work and the other school districts reimbursing on a time spent or per pupil cost basis. Yet, one can see if two districts join together in an area such as has been suggested, the type of program resulting still does not adequately meet the needs of all special education children who potentially might enroll in either school district. Another most important question is the administration of special education. Can two districts afford a director? None have in the past, except to place the responsibility upon a teacher or administrator already functioning fulltime in another capacity and who may lack the sophistication necessary to blend policy, budget, personnel, and facilities to achieve the auspicious results possible in special education. Is there any means available to low enrolled districts that allows the establishment of total special education programs? Perhaps the best answer, unification and consolidation notwithstanding, is the multidistrict cooperative formed to join together enrollments of such size that regardless of incidence, a total program is possible to meet the exceptionalities of the student population in addition to providing specialized administrative leadership essential to the maintenance and continued growth of the program.

A certain degree of strategy and tactics is necessary to overcome the initial problems of forming a cooperative. Superintendents are notorious for fearing the loss of authority, financial insecurity, state laws, and such, and basically one has to consider these very real problems of district administrators in establishing a cooperative program. First and foremost the necessity and the potential auspicious results have to be presented. What is basically being established in a cooperative is a marriage in which divorce can be so punishing that it is almost an impossibility, if only from the standpoint of public relations. In the formation of our own cooperative program in Kansas we found a great deal of hesitancy on the part of superintendents to commit themselves, especially so in that at the time of formation, we had little financial stability due to the initiation of a highly questionable foundation finance plan as well as the lack of permissive legislation directed toward the formation of cooperative programs. It took a certain amount of politicking, convincing, propagandizing, and in a few instances, a degree of head-butting to get eleven superintendents on the same track. Obviously there are a number of ways of approaching the problem, and from now on in this talk I will refer to how we did it and what we are doing.

First of all we gained a philosophical commitment on the part of each superintendent that the means of meeting the children's needs were not being accomplished with our present form of "I'll send you my mentally retarded; you send me your emotionally disturbed and in June we'll figure out what we owe each other." We requested, in fact demanded, a commitment that the needs of all children must be met, and needs must be met regardless of what they were. Surveys were taken and the entire program discussed with out state director, Dr. Jim Marshall, who cooperated to the fullest extent possible. After four years of operation we can only say that our state department has made the difference. Their cooperation, encouragement, and understanding of our problems made it possible for us to establish and maintain the cooperative.

The cooperative was formed via contract and contains basically four elements that can be seen in the following four listings:

1. Ground rules used to establish and maintain the program--Who will sponsor the program? Who is eligible to participate? In our case, policy is established through a quasi board of education which we refer to as the board of directors.

2. Operations--This concerns the director of special education and established duties and reimbursements as well as the hierarchy under which he operates.

3. Facilities--In the cooperative program the facilities are wide spread and basically consist of elementary classrooms that are free in various schools around the area which are utilized for special education. It establishes the rental plan for these classrooms which is paid for by the cooperative in terms of credit on the yearly bill.

4. Finance-- The contract spells outthe financial duties of the sponsoring district regarding maintaining fiscal responsibility for the cooperative as well as the establishment of administrative fees for the administration of the program and operational fees which basically reimburse teachers and teacher's aides and purchase equipment and materials.

All school districts who wish to become a part of the cooperative then enter into a legal contract with all other school districts for the establishment of the cooperative.

Did we have a law on the books which specifically allowed us to form a special education cooperative? The answer is no. In fact it was not until two years after the formation of our cooperative program that a bill was sponsored in the Senate which allowed the formation of special education cooperatives.

Once the contract was signed, the board of directors was established. There is a choice in establishing a board. It can operate with lay citizens by appointment, elected members representing boards of education, or superintendents of cooperating school districts. In our case we elected to establish the program using a board of directors made up of the superintendents of cooperating school districts with the thought that within several years this would slowly transfer over to a board of directors composed of school board members representing the cooperating districts. At the present time not one member of a board of education sits on the board of directors. They are still the superintendents of the cooperating districts.

In terms of finance, special education is more expensive per pupil than that found in the regular classroom. If nothing more than enrollment were considered, it would still be more expensive. In the past, special education called for in cases such as orthopedically handicapped, blind, partially sighted, deaf, and hearing impaired, required special equipment which was expensive and still is expensive today. However, the difference in cost between special and standard is not what it was fifteen and twenty years ago, since regular education has entered into a purchasing era of electronic equipment. The classroom cost of equipment has increased tenfold over what we normally spent in the past, thus, the mechancial and electronic area of special education expenses have basically decreased in their relationship to the cost of maintaining a regular classroom, since the regular classroom is no longer devoid of its share of mechanical and electronic equipment. However, costs still accrue disproportionately due to special transportation, facilities, and the levy of administrative expenses as well as teachers salaries over a limited number of children. Yet this is offset by increased financing on the part of the state which in many areas provides additional funds for the maintenance of specialized educational programs. In addition to this, there are also incentive plans by various state departments which encourage the formation of a cooperative in special education. In Kansas a district that takes students from another school district for the purpose of special education is paid $100 per out of district child. In a cooperative such as ours with an enrollment of approximately 260 students of which our district only furnishes approximately 25, one can see quite readily that $23,500 immediately accrues to the cooperative.

Let me state just how money accrues to the cooperative in the state of Kansas. First of all, several thousand dollars per program is funded by the department of special education plus reimbursement for a proportionate amount of supplies and equipment. In addition to this, $100 is paid per out of district student in special education. Additionally the state foundation program pays a certain sum of dollars per teacher to the school district and that sum of dollars is dependent upon the amount of training each teacher has. Educationally, teachers in special education are proportionately more highly trained than the average faculty. In addition we have transportation. Our cooperative program transports all children and figures transportation from the home to the sponsoring district; therefore, additional money accrues through this.

Now a word on the negative side. In Kansas the pupil-teacher ratio is a factor in the foundation plan, therefore, the sponsoring district finds that its pupil-teacher ratio could fallunder the minimum standard mandated by the state. In Kansas this means a reduction in foundation monies, thus, an increase in property tax. However, the cooperative should and does maintain that the sponsoring district will not incur any financial obligations other than those normally acquired by cooperating districts. This means the sponsoring district shall not be hurt by this lowering of their per pupil-teacher ratio. What we do in the cooperative is to compile two budgets, one for the school district without the cooperative sponsorship and the other with it included. If the difference is negative, that difference is paid by the cooperative to the sponsoring school district. If the difference is on the plus side, that amount of money is paid by the sponsoring district to the cooperative program. This puts the cooperative on a firm financial basis and operates as fiscal financial security for the sponsoring school district.

In addition to state monies, other funds are received from participating school districts. At present these funds are received to cover two major expense areas, administration and operation. The cost of administration is figured on the basis of total cost divided into the total school enrollment of the cooperative. In our case, it results in a cost of about 70 to 80 cents per student which is paid as a participation fee once each year to maintain the director's office as well as secretarial salaries, equipment, maintenance, and materials. The second fee paid by participating school districts is the per pupil assessment. After all state monies are figured, the remaining cost of maintaining the total number of programs is computed and divided by the number of children available for the programs. The result is a per pupil fee of approximately $400. As you can see if a school district had 20 children in the program and an enrollment of 2,000 children in their school district, then their total cost would be $8,000 as the total per pupil assessment plus $1,400 participation fee to cover the cost of administration. That school district thus has any one of a number of programs to place children, in addition to psychological and administrative services for the relatively low cost of $9,400 a year to the participating district.

With approximately 260 students enrolled in the special education classes, we have what we consider an excellent beginning program that adequately provides for a large number of students who need specialized programs. In addition to these programs we have hospital and homebound programs with administration by a director and his assistant. Two secretaries serve the administrators and two psychologists are employed. The total cost of this program is just over $300,000 per year including both state monies and participating district fees. The program serves approximately 260 children in classrooms and approximately 425 children per year if one includes psychological testing for children who do not enter into the program, hospitalized and homebound, as well as itinerant visually impaired children.

The cooperative program in turn cooperates with other area programs. For instance, Kansas City, Kansas, places its primary orthopedically handicapped children in our program. We in turn place our intermediate children in their program. Both programs are housed in the same facility.

Additionally, students are taken into the program from districts that have not joined the cooperative. These districts pay a special tuition rate of approximately $900 per year. The tuition is paid by the school district sending the child.

A number of cases have arisen where nonparticipating school districts were unwilling to pay the tuition fee while the parents were extremely willing. However, our rule and our own philosophy of special education services as an obligation of the school district has been maintained by allowing tuition fees only from district, not from parents.

The same is true of transportation fees. We contract only with school districts, not with parents. What agreement or arrangement is reached between each school district and parents of exceptional children is up to the school district, not to the cooperative.

Since we have a parochial enrollment in the area, parochial children who need special education facilities transfer back into their public school district and from there are placed in special education.

Any cooperative program, as well as any program in special education, has certain problems relative to the fact that operations in special education are somewhat different than those found in either elementary or secondary education. I would like to go over just a few of these with you.

Transportation is perhaps the largest problem in our cooperative program even though our children do not travel relatively large distances. We exist in an area of approximately 80 square miles with the majority of children being bussed to their special education classrooms. Many of the children are picked up at their home, delivered to the program, and returned to their front steps. Some are carried up those steps. The overriding philosophy is basically get the children to class. It used to read get the children to class on time. Since the placement of classes is dependent upon elementary schools where rooms are available, few children are placed within their own local area. In fact, one finds children traveling ten miles in one direction. Since the route of each bus is dependent upon a particular class, then that child could easily travel 50 miles before getting to school; he thus could ride that bus for over 1 1/2 hours. We have worked out with the bus company so that no child travels more than one hour.

In establishing a transportation program for a cooperative there is a choice. Transportation can be conducted by the cooperative program or it could be conducted by the parent, and from what we have seen, the majority of parents are willing. In a number of cases, with the children in my own district, when an impasse has been reached between what potentially can take place in bus transportation versus the desires of the parent, we have taken the child out of the bus transportation pool and have told the parent to transport his own child for a payment of 50¢ a day. Actually it is less expensive and parents are pleased with the arrangement. Basically, the child leaves for school about ten to fifteen minutes before class and is immediately picked up and brought home; this actually gives the parent more time.

Should transportation be free or should there be a fee? We have a number of arrangements, dependent upon the cooperative district at which one looks. There is no policy in the cooperative as transportation is left on a fee or free basis with each district. Some districts pay the entire fee which is quite high compared to the transportation of nonexceptional children. Others mandate the same payment for exceptional children as that due for the nonexceptional. Thus, in my own district, parents of nonexceptional children are expected to pay $6.50 per month for bus transportation with the district paying the remainder. Parents of exceptional children also pay $6.50 per child and the district pays the remainder. The difference, of course, is that transportation of the nonexceptional child is much less than transportation of the exceptional child. Our decision was for equity and thus parents pay the same.

Let me conclude this talk by a very short discussion of the director of special education. He, basically, is a man who has more problems than most of us appear to realize. The director has a long distance to travel to reach program after program after program. Yet, basically, the director is also a supervisor and until the program reaches that degree of sophistication where supervisors per se become operational in the program, he must operate as a supervisor. Yet at the same time he is held to his office by finance, transportation, and relationship problems. Literally, the director has to fight his way out of the office and into those classrooms. The director has a special problem. His faculty is spread throughout the cooperative in various buildings under the jurisdiction of principals. If the special education teacher identifies with the faculty and administration of the building, the teacher is prone to program changes that relate his class more toward the accepted practices and principles inherent in the building, which may be detrimental to acceptable practice in special education. If the teacher does not, but tends to relate to the special education director, the teacher risks isolation from the building faculty and perhaps illicits unfavorable responses from the building principal. The quandary exists wherever supervisory control is lacking and programs are spread over large geographical distances. But even in a well balanced program where individualized special education programs are coterminous, nuances that limit the alternatives of choice both for the teacher and the director can exist and result in a limiting of administrative sufficiency and efficiency.

It would be very possible to continue talking about problems in cooperative programs and I am sure you see that cooperative programs, as well as programs in general, have quite similar problems. Basically, the story here has been, special education services can be provided for all children regardless of the size of the district if there is cooperation. Student population and geographical area are problems, but not problems that are impossible to overcome. Through a cooperative arrangement we are well on the road to providing for individual differences regardless of what they may be. This same program is feasible in any state, so long as there are administrators who are willing to cooperate one with another in a democratic fashion with the ultimate aim of helping all children in the satisfaction of their needs.

THE EFFECTIVE USE OF THE EXTENDED SCHOOL YEAR

by

Samuel B. Ross, Jr.

On the recommendation of the Joint Legislative Committee on School Financing, in 1963 the New York State Legislature combined the goals of educational improvement with that of economy through an amendment to the education law which directed the State Education Department to: "...design demonstration programs and conduct experimentation to discover the educational, social and other impacts of rescheduling the school year from the present thirteen year system to a twelve or eleven year system but still providing as many instructional hours or more than are now available under the present thirteen year system (Extended School Year Designs, 1966)." Many people see in the foregoing quotation only an economic basis for attempting to reschedule the school year. However, the original legislative intent was to promote quality education as well as to promote economy. This is evident in the introduction to the amendment which states "In order to enrich and intensify the school program, to make better use of educational facilities at the same time, to achieve significant economy and..." The Office of Research and Evaluation of the New York State Education Department was assigned the task of testing the feasibility of rescheduling the school year plans. Between 1964 and 1967, pilot projects were instituted in six school districts. The schools included elementary, junior, and senior high schools. Students involved in the project included normal as well as physically handicapped, emotionally disturbed, and brain damaged youngsters. The study excited the imagination of educators, mental health professionals, school board members, legislators, and other groups in virtually every state in the country. Approximately 60 school systems in other states are reportedly seriously contemplating the institution of an extended school year program. In March 1968 a Legislative Report (The Rescheduled School Year) was issued which describes the several extended school year designs which have been created to help attain the goals of economy and increased educational opportunity, and presents specific findings, conclusions, and recommendations which may become the basis for new lengthened school year programs. Review of earlier research, field studies conducted in several large cities and numerous smaller school districts in the state, and experiments conducted in Commack, Syosset, Hornell, Cato-Meridian, Green Chimneys, and the School of Human Resources, are included in the special report.

Soon after the report was issued, Fred M. Hechinger discussed this in his Education Column in the New York Times, April 7, 1968, with the question, "Should We Extend the School Year?". Mr. Hechinger said:

> For the great majority of children 'school's out' at the end of June until after Labor Day, more than two months later. Periodically, opponents of this traditional summer vacation say that it's time for a change, time to find ways of putting to use for educational opportunities the billions of dollars worth of public buildings normally idle in the summer.
>
> In a determined move to change the tradition of the summer shut-down, the New York State Education Department last month asked the Legislature to pass 'permissive' legislation to allow localities to operate schools for as long as 11 months a year, with state funds supporting such operations on a regular basis.
>
> To bolster its argument, the department pointed to a study begun in 1963 under which four school districts--two on Long Island and two upstate--actually ran their schools on an extended schedule. Schools were open for as many as 210 school days, compared with the state-wide average of 183 days. In at least one of the experiments, in Syosset, L.I., some students complete a four-year secondary school program in three years.
>
> Dr. George Thomas, who coordinated the department's experimental program, said that 22 other districts have shown an interest in the lengthened school year. Some 60 districts in other parts of the country are studying such steps.
>
> What is the present situation--and why?
>
> The American school calendar is the inheritance of a once predominantly agricultural society. On the farm, all hands, including the children's were needed during the

summer.

Conditions have changed. 'As a megalopolis grows and grows, a modern generation of children have little to do in their free time in the summer,' said the report. For many children the street is the alternative to school.

Compared with most of the rest of the world, the American school year is short. The United States average is 180 days. Soviet youngsters attend school for 230 days (though on a compulsory basis for only 10 years, compared with America's 12). In Denmark, Germany, and China, 230 and 240 days are the rule. Only Italy falls below the U.S. average with 154 days.

In recent years, many American school systems have tried to compromise by offering special summer sessions, usually consisting either of make-up work for those in academic trouble or of special or advanced courses in areas not normally in the curriculum as a bonus for the particularly gifted and interested.

In New York City, for instance, some 150,000 have been attending special summer classes annually during the past years. And this does not include the pre-school headstart programs, the nationwide effort to help disadvantaged children catch up with the middle class.

But the new proposals aim at something quite different--regularly extended schooling to stretch the school year to about 11 months, or at least 30 school days beyond the present total.

Teachers would be paid on a full-year basis, but would have the option to teacher a shorter year. This would make it possible for some to seek summer employment or improve their own education. Additional teachers would be hired to fill in.

Most persuasive among the findings in the experimental district was the fact that students on the extended year made proportionately greater academic gains than those on the conventional schedule, especially in reading. And the low-ability pupils made relatively greater progress than the average and bright. Those who had been on the extended school year did better in reading during the fall and spring terms as well.

This indicates that the greater continuity of school is particularly beneficial. Or, to put it another way, the long interruption is especially harmful to those who need school most. The loss of momentum is a serious handicap.

Objections to the extended school year are predictable. A spokesman for the department said that the United

> Federation of Teachers, which speaks for the city's staff, had opposed the plan because it might create discord between teachers who worked the all-year program and those who did not.
>
> Although campers and camp owners are likely to be vocal in opposition, the report points out that at present only between 5 and 7 per cent of all children go to camp.
>
> Indeed, the state education authorities suggest that, rather than hurting the camps, an eleven-month school year with staggered four-week vacations could make camps available for huge numbers of children during the spring, summer and fall months, perhaps with public subsidy.
>
> Also in opposition are some child-care experts and parents who feel that children should be protected against excessive pressure and against a speed-up of educational progress.
>
> Such objections, however, miss the main point. They assume that the extension of the school year into the summer would be or ought to be, simply more of the same, and for all pupils.
>
> The real opportunity for educational reform is not in a speed-up (although this may be desirable for some particularly mature youngsters) nor in added busy-work. Properly planned, the extended year could give youngsters widely varied options--including a combination of academic work and recreation as part of schooling. Others, including some who want to or must, take summer jobs could remain on the shorter schedule.
>
> The real issue, in other words, is not to extend the 'system' but rather to make better use of the available time in a way that is best for the children, not the administrators. School planners might even discover that air conditioning has been invented (Hechinger, 1968).

Of course it was nice to see that a program which we had adopted in our school in the fall of 1966 was now getting recognition in the newspaper, not because of something we had really done, but because we had followed the suggestions of Dr. Thomas and had designed a combined school and camp experience for our children. Behind our move were some very definite and sound reasons. We were sure that for the type of child we were serving an extended school year program was the ideal way for him to be educated. Our campus was already in use the year round. During the winter months or the academic year, it was a school and during the two summer months, it was a camp. So, for us it wasn't a matter of economy, it was something else. We were concerned about the way children reentered school in the fall. They took time settling down. They had forgotten so much. Everything had to be repeated and as was the case in most schools, September was a month of reviewing, but our children couldn't afford this time. Many of them were diagnosed or classified as being academically retarded, and for them to spend a summer in play only added to their problem. We began to think seriously about what we could do about this. For us the traditional long break from formal school activities definitely contributed to an additional educational loss. We realized that the high rate of forgetting led to academic forgetting and a loss of proficiency in the essential work study patterns. This, in turn, led to frustrations when the pupils attempted to make up what they had lost in skills or knowledge, and added many additional problems for the faculty. We were certain that the children needed some break in the routine, but were not certain that this meant that they had to be outdoors for the entire day. We wondered if we couldn't come up with some kind of program that would vary the schedule for them and yet would help them keep up with the basics that they needed for school. So we began to design a summer of school and camp activities; school in the morning--camp in the afternoon.

In most cases our faculty had been on duty anyway and had been running around as camp counselors; we felt that to put them in the classroom and give them the opportunity to do what they did best was a more appropriate use of their time and was more in keeping with their professional ability. For the first time we began to see that boys and girls could progress in the summer and could return to school in September relaxed and ready to learn. In the late fall of 1968, the Research Division of the National Education Association produced a bulletin entitled "The Rescheduled School Year," Research Summary 1968-S2. In discussing the various approaches they included a description of our program which reads as follows:

> The 1967-68 Green Chimneys School experimental program was a modified form of the continuous progress plan (60:45-50). The academic program was extended from 180 days to approximately 233 days per year. Pupils spent three and one-half hours in the morning on academic activities, with art, music, physical education, and one hour of study in the afternoon.
>
> Green Chimneys School is not a public school but a nonsectarian, interracial, nonprofit boarding and day school set on a 105-acre farm in the New York Berkshires. Prior to the pilot project, the school operated an academic program for 10 months and a camp in the summer. The school attempts to provide for the needs of children who come from disruptive homes, who are academically retarded, or who exhibit emotional, neurological, or perceptual problems. It provides a highly structured academic setting. Most of its preschool through eighth-grade pupils are able to cope with the secondary school curriculum when they leave Green Chimneys School. Approximately one-fourth of the pupils are emotionally disturbed, one-fourth have problems related to brain damage, and the remaining one-half are nonhandicapped, average or gifted children. In this atypical setting, the objectives of the experiment were slightly different from those of other experimental projects.
>
> The program apparently had a positive impact on children. For example, it was found that the academically retarded pupils had an opportunity to make up their retardation. The experience appeared to be settling for emotionally disturbed children who usually regressed emotionally during the summer at home. Teachers and administrators reported a

> reduction in social and behavioral problems among the pupils. Middle- and upper-grade pupils reported they felt a sense of accomplishment during the period when they were usually wasting time, and, reportedly, the adjustment to the fall academic term was easier than in past years.
>
> The school physician found no evidence of injury to the children's health. Little statistical analysis of pupil achievement was available. Analysis of achievement test scores of control and noncontrol pupils (groups not defined) showed a language growth by the experimental group significant at the 5 percent level of confidence. The experimental group made greater gains than the control group between pre- and post-testing on the Stanford Achievement subtests for paragraph learning and arithmetic application. The results were not statistically significant at the 1 percent level of confidence. Tests used to measure behavior and attitude showed differences between the two groups to be nonsignificant. Reactions of the 15 participating teachers were favorable. Results of a poll were as follows: 86 percent wholeheartedly favored the 12-month program; 91 percent favored continuation of the program; 82 percent would be willing to work a full 12-month program; 100 percent reported that children seemed willing to learn; 93 percent reported that children did not show resentment at having to go to school during the summer; 82 percent reported that children seemed to have healthier attitudes; 100 percent reported that the children had not been fatigued; and 82 percent reported that the fall school opening seemed easier than in the past (The Rescheduled School Year).

What this report didn't tell and what only those people who were on the scene could tell, is that the children really benefited and enjoyed the program. We have continued the program and will continue it indefinitely, for, with the special types of children we serve, we can see no better educational plan.

The extended school year has brought to our campus a reduction of pressure, a change in the time module of classes, the introduction of a 1/2 weekly afternoon off for special projects, and the inclusion of a variety of new courses which we couldn't have considered before. It has also given us all the opportunity to have children work steadily, day by day, on the kind of work which will help them. It has made it possible for the teachers to follow the youngsters much more closely and to have the youngsters come back for more and more help. We realize that nationwide, this type of program might well meet with a great deal of opposition, but for special education it is a must. It is a must that the children we serve be involved in a structured program the year round. In this way we can bring to bear whatever remediation is necessary and we can see that it is done continuously and without pressure.

All sorts of programs are being proposed. George M. Jensen, School Calendar Committee Chairman, 2015 Kenwood Parkway, Minneapolis, Minnesota 55405, would be glad to communicate with anyone concerning the various types of proposals he has put forth since his committee began work a few years back. One need only look up the research of the National Education Association which is quite extensive. If that is not enough, one can turn to the New York State Education Department and read the "Extended School Year Design" (1966) booklet as well as "Setting the Stage for the Lengthened School Year Programs" (1968) which was a special report prepared for the governor and the legislature of the state of New York last year. The issue is very much alive. The February, 1966 issue of the School Management covered the whole situation in "The All Year School-Time for a New Look?". In 1968, the NEA released another research pamphlet on the subject. It may be the four quarter system, the 12 months school year, a supplementary summer school, or it may be the extended service term for teachers, but it is coming, and for special education it cannot come soon enough.

> Which plan is best? There is no one answer to this question. Each school system will undoubtedly be considering all of them in the next few years. The supplementary summer program and the extended service term for faculty members have received the most favorable reaction from educators and parents alike. Variations on the 12-month school year could probably solve the most crucial problem of providing more time for instruction for all students. Whatever decision is ultimately made in their district, parents should keep informed, think in terms of the best possible education for their children, and be prepared to be a source of help and suggestions when their school board tries to find the best answer to the needs of their own community (What about a Year-round School?).

There are advantages and there are disadvantages, but a careful analysis of the entire scheme will prove that there is no better answer for special education pupils than to be under the watchful eyes of their teachers the year round. It will take time to design a program, but the effort will be worthwhile. The happy faces of the children, the warm reactions and acceptance by parents and teachers will overshadow all of the drudgery that goes into designing such programs. It is true that we are a residential setting and to come up with a school plan for the summer is another way of handling the activities of the children. But as we look around the country we see the number of summer schools that have been organized for the disadvantaged, and we discover the amount of camping that is being given to youngsters from ghetto neighborhoods. As we acquaint ourselves with the numerous tutorial programs, I am sure that we will be impressed with the fact that much good could come from opening the doors of the schools to all children.

Today I appeal especially for children in special education but the truth of the matter is, all children can benefit. Nobody ever gets through learning.

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THE PHYSICAL ENVIRONMENT: A BRAVE NEW WORLD

by

Alan Abeson

Toward the end of Brave New World Revisited, Huxley (1958) asks "do we really wish to act upon our knowledge?" He poses this question in relation to preventing the development of the type of society that was created in Brave New World where conditioning and hypnopaedia or sleep teaching took the place of education as we know it, and where physical but not psychological freedom characterized mankind. Huxley's Brave New World is a rather pessimistic statement but one can use the same phrase to preface a discussion of the physical environment which, if imaginatively and functionally designed, will complement imaginative and meaningful educational programing.

If we could borrow one of the agile helicopters owned by a Brave New World Alpha and could take a rapid tour of schools across the country, we would see from the sky as Harold Gores (1969), President of the Ford Foundation Educational Facilities Laboratory, indicates, large boxes, and then when on the ground and in the school would find little boxes that are called classrooms. Entering the building we would embrace a bowling alley corridor which serves as a traffic chute for access to the classrooms which are placed side by side and opposite each other resembling the pattern of a large egg carton. The classrooms themselves are sterile and again using Gores' language, resemble a kitchen with a kitchen floor, kitchen furniture, and hard pale wall. One wonders if the planners of such buildings were aware that children were going to be housed in them. But, in fact, we know they knew, but that because of choice or desire, concentrated on providing for economy, maintenance, and permanence.

Although these classrooms have been designed primarily for nonexceptional children, they frequently become the home that is also provided for the late to arrive class for handicapped children. It is common knowledge, moreover, that historically and still today, the education of handicapped children also occurs in abandoned schools, churches, barely modified basements, and renovated offices or custodial quarters. However, this situation is undergoing rapid change as more and more handicapped children are provided with special education and associated services. Estimates indicate that 3 1/2 million handicapped children are not yet receiving any special service. To translate this to facility demands, as was recently done by the Office of Education, indicates that 2,358,000 student stations or 19 percent of the total demand for educational facilities is needed for the handecapped (1968). The demand for information pertaining to the programing and design of classrooms for exceptional children is confirmed by the more than 200 inquirires received by The Council for Exceptional Children project, "Physical Environment and Special Education."

The question facing the educators and architects who are becoming involved with planning facilities for exceptional children is, are they going to duplicate what has already been done, or are they going to step forward and begin to design a physical environment that is based on educational and child related variables? While this sounds like a tall order, which it is, the process may start as Huxley suggested, by considering various levels of knowns. Initially, there are broad knowns that apply generally to the planning and design of facilities for exceptional children.

1. If there is any one statement about education that can be unequivocally treated as a known, it is that methods, materials, equipment, etc., will change. While in Huxley's world change was prevented from occurring, it is within our society and particularly in the educational sphere, that it is encouraged, if not demanded. Therefore, school buildings must be designed in a manner that will enhance the effectiveness of new programs. The dramatic degree to which these changes are occurring is exemplified by focusing attention on not only the amount of instructional materials that are available but even more significantly on the wide variety. Similarly, attempting to describe the media demands of today's classroom is next to impossible and yet such a step is clearly required for obtaining the greatest use of tomorrow's learning spaces.

2. While the need to accommodate change is relatively well recognized, a second known is that the use of the word flexibility to describe this need lacks the necessary precision to be meaningful. A recent publication of the Educational Facilities Laboratory, Educational Change and Architectural Consequences, indicates that the term flexibility "...has become a catchword and architects complain that too often it allows educators to shift educational problems to them without indicating the solutions (1968, p. 15)." To get away from this catchword architect William Caudill proposes four distinct terms and definitions which will add clarity to this concept: (a) expansible space that can allow for ordered growth, (b) convertible space that can be economically adapted to program changes, (c) versatile space that serves many functions, and (d) malleable space that can be changed "at once and at will" (Educational Change and Architectural Consequences, 1968).

3. That children will learn, grow, and consequently change is another known factor. Thus, the school must be adjustable to meet the changing needs of the child during his growth. For exceptional children this may be described as initially providing a supportive environment and gradually adjusting it to more closely resemble components of the real world such as are found in regular schools and places of employment.

4. A fourth known applied to change is that while space can be provided that has the potential for restructuring, there is no guarantee that it will be used in that manner by the educator. To achieve the intended use, the planning of the building should involve the practitioners who will be operating in that building to a degree that is perceived as significant by them. This is becoming increasingly important--for the trends to develop schools that are based upon large open spaces without walls, corridors, or doors are something of a shock to traditionalists. What a waste of effort occurs when teachers move into such a space and then arrange their teaching area (which can no longer be called a classroom) with three rows, nine desks across, for the remainder of their teaching life. Equally sad is when movable walls remain permanently open or closed. The cry is not to allow only Alphas or Betas to plan facilities, but to involve the Deltas and Gammas as well.

5. The last on this list of broad knowns, which is of no less importance and closely related to the others, is that in the absence of a systematic educational program, the nature of the physical environment is meaningless. In fact,

6

without an educational program that is reasonably well stated, an appropriate physical environment cannot be created, for the objective of facilities creation is to match the program with the facility. It is obvious that basing environment on an ambiguously stated program will produce an ambiguous environment.

In Brave New World, the nurturing, or perhaps more appropriately stated, the manufacturing of standardized people, was able to occur because the elements of the human system were factored out and manipulated, depending upon predetermined goals.

When considering a similar analysis of the physical environment as it may relate to special education, great difficulties are encountered because the absence of knowns in each field is magnified when they are dealt with in unison. Some attempts, however, have and are being made to develop analytical systems that will permit the production of an increasing number of knowns.

The first of these systems is strictly environmental and employs terms such as color, light, texture, and shape. Another approach is strictly educational in that the terms used are based primarily on the major activity clusters associated with the operation of the day by day educational program. Some of the terms employed under this scheme include in and preservice education, feeding, grouping, toileting, and supervision. Neither of these systems could be used apart, but rather would require that one or the other become an overlay on the other.

Another approach has recently been proposed by two architects working at Rensselaer Polytechnic Institute which utilizes terminology that is described as "environmental conceptualizations." These include scale, transition, privacy, consistency, usability, movement, and others (Haviland & Bednar, 1969). These terms imply more than those used in either of the two earlier systems and express something more than either the strictly environmental or strictly educational approach allows. Consider, for example, some of the concepts implied.

Privacy. There are times during the process of learning or teaching or in dealing with human beings that the child or teacher has a need to be secluded from the immediate situation. Isn't this notion supported by the behavior of nursery school or kindergarten children when they play or look at books under tables in the corners of their rooms?

Scale. If one were to study the factors related to the success of tree or playhouses as measured by frequency of child use, it could be hypothesized that child versus adult sizes of the space would be a critical variable. Should such considerations be applied to time-out rooms?

Consistency. Casual observation of persons forced to move from one office to another indicates that some time must be allowed for acclimation to the new space. Is a similar disruption in functioning in children caused when elements of their learning space are rapidly and frequently restructured?

Transition. Many school districts find it necessary to bus groups of special children to schools to form large enough concentrations of children to form classes. The stimulation which the children are exposed to on the bus is intensified when they join the main traffic stream in the building causing some loss of instructional time until the children quiet down. Is there a need for the development of new approaches to transporting and delivering children to their schools and classrooms?

Usability. As expressed by the authors, this term suggests that the entire building and all equipment should be usable by the children. How frequently do the standardized furniture and hardware in buildings used by exceptional children violate this concept?

Movement. With the multiplication of services that are increasingly being provided to support special education programs, a corresponding number of special use spaces in expanded facilities is required. What devices can be employed to assist handicapped children in locating spaces with which they are concerned?

The point of this is that when facilities for exceptional children are planned, there are a certain number of knowns that can be stated. None of these analytical schemes are perfect, nor should they be used in an either/or fashion. Their purpose is to indicate the first step in problem solving, stating the known need.

While much of this discussion has been directed to the identification and ordering of information for planning, a few slides collected during travel conducted by the staff of the CEC project, "Physical Environment and Special Education," demonstrate solutions to a few known needs.

1. The high cost of construction, plus the apparent limited use that can be obtained from corridors, has led to a demand for the creation of corridors which are more than corridors. Another factor bearing on this need is that traditionally used bowling alley corridors are often viewed as causing disorientation for many exceptional children. Two examples of noncorridors demonstrate their feasibility. Both are used as multipurpose areas, with the carpeted space used for more sedentary activities plus occasional single class physical activities while the other noncarpeted area serves as an assembly and indoor play space. Note how both of these also serve a major corridor function.

2. The need for rooms to achieve privacy or escape from excessive stimuli has resulted in spaces called quiet rooms, explosion areas, and womb rooms. Conversations with teachers have indicated that the usefulness of these rooms varies with particular groups of children and also that they are at times used for various purposes, the most frequent being storage. Consider that even within these spaces there are demands for flexible usage.

3. Earlier, mention was made of the conceptualization, usability. Some examples of design for usability include a table made especially heavy to prevent tipping, adjustable for different sized children, and with a lip at the back edge to prevent objects from falling off. Other examples include chalkboards that are mounted away from the wall, sometimes on an angle and sometimes vertically adjustable for use with children in wheelchairs, doors that permit use by children in wheelchairs because of a dual handle system, and also long vertical glass panels in the doors that permit the children to see what is happening on the other side.

4. The design of storage elements requires that adequate provision be made for a variety of items such as wheelchairs, instructional materials, individual projects, and children's coats and boots. The lack of adequate storage is a most frequently mentioned statement by teachers when asked for critical comment about their teaching spaces. Not only does a storage room adjacent to the basic classroom provide for increased storage capacity, but with appropriate counters can serve as an additional teacher and/or child work area. Storage compartments can be well integrated into available space such as an arts and crafts room. Containers for yarn and material can roll out to leave vertically adjustable surfaces which can be used by children in regular chairs or wheelchairs. Large open compartments in wood shop are economical in

terms of construction, energy required for use, floor space utilized, and the ease with which particular projects can be found. Built into corridors can be special pockets which are used for wheelchairs, and long areas above with sliding doors for cots that remove the potential for clutter often seen in schools for the physically handicapped. For the children's coats, space can be designed to be low and accessible to children in wheelchairs as well as aestheticly pleasing when closed.

5. Difficult to define but easy to feel is the characteristic of the physical environment that is referred to as character. To achieve a home-like building, spring loaded chalkboard units can be used rather than permanent walls, carpeting can be used throughout the building, and a home living room suite and an outdoor court can be included. Other schools can utilize a small exterior court in the middle of the building and erect a child designed, but artist executed sculpture. A third building in a warm climate could include an easily reached patio to permit the children rapid access to the outdoors.

While attempting to talk about knowns up to this point, I would like to conclude by focusing on an unknown. It is clear that the role of the physical environment is not to serve as a teacher, but rather to be available as a teaching tool or catalytic agent to enhance the educational process. To what degree this does or can occur is not known, for the science of environmental psychology is as yet in a primitive stage of development. The increasing sophistication of this field will lead to increasing attention placed upon the learning space as an experimental variable which can effect learning. And since much of Huxley's fictional world occurred as a result of experimentation, I think that it is accurate to say that the physical environment as applied to the education of exceptional children truly can be a brave new world.

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ROLE OF THE SPECIAL EDUCATION LEADER IN ESTABLISHING BASIC COMMUNICATION

by

Leslie Brinegar

From time to time for as long as I can remember there have been imploring cries, if not actual demands, made for an improvement in the type and amount of communication between professionals in special education and between special educators and the community at large which they serve. Such demands have not been made importunately enough, or taken seriously enough by the profession as a whole to cause special education leaders at all levels of operation to attend to the problem in a sustained, cooperative, coordinative way sufficient to develop the systems necessary to achieve a maximal amount of interorganizational and interpersonal communication. It may be, however, that enough people in responsible positions are now convinced of the necessity for improved communication systems that such development and implementation may be just over the horizon. Never before has there been such a synchronized outcry demanding improved communication as displayed by professionals attending the seven special education regional conferences conducted by the Bureau of Education for the Handicapped during 1968 and reported in the draft summary of those conferences distributed by the Bureau a few months ago (Bureau of Education for the Handicapped, 1968).

In this paper, I wish to enumerate three basic reasons why I believe that appropriate attention and maximum emphasis must be given to systems for the input and output of communication from and to special education operations at all levels by the leaders in those organizations right away.

1. There appears to be within every individual operating in the field, whether he be teacher, supervisor, consultant, director, teacher, trainer, researcher, or "bureaucrat" within the state department of education or federal office, a felt need and strong desire to know what's going on. That this feeling exists almost universally among practitioners in special education is a known fact. Top priority should be given by the field to the satisfaction of this need among its members. To do so would tend to illuminate feelings of pride in their profession among special educators and disspell the feelings of aloneness often attributed to teachers and other special education personnel.

2. Overall qualitative programing for the handicapped will likely eventuate only when concepts and clusters of concepts concerning special education and related fields canbe communicated back and forth quickly to personnel at all levels of operation and in a manner in which personnel at all levels can understand, utilize, and apply.

3. Appropriate and comprehensive special education services to all handicapped children and youth at all stages of their development will cost enormous amounts of money. Money, in the quantity needed to do the job, just simply has not been made available in any state. If it ever does become available in sufficient amounts to accomplish the goals of special education it will be because responsible people within the field, in a planned way, will ascribe their energies to the task of communicating with the public. Such communication must be of such intensity as to sufficiently inform and to constantly maintain public understanding of special education, its purposes, its needs, and the reward to society as a whole of the fulfillment of those needs.

Establishing Communication Relationships

Having formulated three basic foundations upon which the need to communicate and to be communicated with can be based, let us turn our attention to some suggestions for the actual improvement of communication between personnel within and between organizations. Two important points need to be understood, accepted, and implemented from the outset.

1. If we are going to be able ultimately to establish workable communication systems, all special education organizations must commit themselves to the task

of communication output from that organization to others within its system.

2. One person within each particular organization must accept the responsibility for implementing systems of information output from that organization.

I've never known a special educator yet who wasn't anxious to learn what is happening in special education elsewhere. The director of special education in all local school districts wants to know what new programs are being established in other school systems; what the state universities are doing and planning; what new federal programs have come into existence, or are likely to; and what new thing the state department of education is concerned with. Similar interests are constantly being expressed by the universities, by state institutions, and by private associations and agencies. All individual teachers and therapists appear to have similar interests. Not only do we all need and want to know these things, but also most of us express our feelings quite frequently in the form of complaints as to why someone doesn't do something about it. Everybody wants to be informed. The "hang-up" in the whole matter of communication results from the almost inexplicable inability, or unwillingness, on the part of all but a few individuals and organizations to effectively communicate outward, or to even attempt to communicate, to others. The leader of the organization must accept the responsibility for effecting communication linkages. The leaders I am referring to are the directors of special education at the local and state levels, the chairmen of the department of special education at the college and university level, the executive directors of the parent or professional vested interest organizations, and the educational administrators within the state hospital and residiental schools. If our communication is bad, and we must assume that it is, responsibility for it has to be accepted by those in these particular positions.

What can persons who hold these important positions do in order to establish a base for effective communication? Directors and chairmen of special education departments must assign top priority to what I call "The Politics of Building or Developing Relationships." In order to become effective in setting up a communication system which serves his and his organization's particular needs in the most minimal fashion, the director must (a) determine what information he needs to have to function effectively, (b) determine where and from whom he can obtain it, (c) establish a relationship with that organization, agency, and/or individual, (d) communicate with it, (e) maintain consistently the relationship and communication, and (f) continue to expand that relationship and add other relationships as needs for further information and other kinds of information increase.

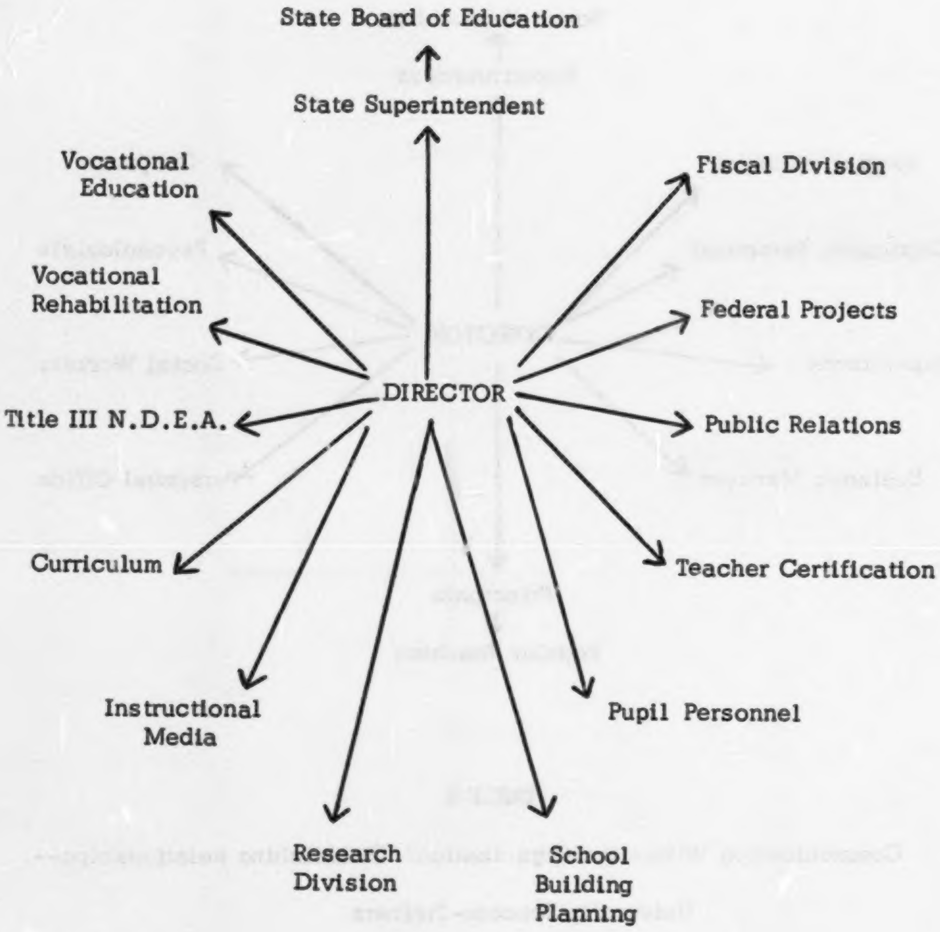
Establishing Relationships Within the Organization

The politics of establishing relationships must take place upon at least two levels: (a) communication within the organization, and (b) communication without the organization. Both take a lot of the director's time; hence is the reason it is seldom done well. Table 1 illustrates the scope of the process of the politics of establishing relationships within the state organization which the state director of special education must concern himself with. You will notice that the arrows point outward with the director as the hub of the process. The pointing outward of the arrows indicates the importance of the director's assuming the initiative for outward communication concerning the special education program. The chart represents some of the divisions within the internal operation of the state department of education and is sufficient to indicate how time consuming this part of the job of the state director can be. However, because the director knows, or should know, that if he is to build special education within the state he must from time to time have access to the technical know-how, the services, and sometimes the funding capabilities of these other parts of the state department. Access

TABLE 1

Communication Within the Organization: Establishing Relationships--

State Director


State Board of Education
State Superintendent
Vocational Education
Fiscal Division
Vocational Rehabilitation
Federal Projects
DIRECTOR
Title III N.D.E.A.
Public Relations
Curriculum
Teacher Certification
Instructional Media
Pupil Personnel
Research Division
School Building Planning

to these services and funds can be more easily obtained when these divisions within the organization know and understand special education. The extent of their knowledge is usually in proportion to the ability and willingness of the director of special education to communicate outward from his office to theirs.

Table 2 shows the process of establishing relationships as viewed by the local director of special education within the local school system. The problem is the same, but the scope of the process within large public school systems and cooperative school district special education programs may be larger than at the state level due to greater numbers of people with which the director must deal and the geographical factors which complicate his job. The need for an improved system for outward communication from the local director of special education and his staff to general educators concerning the goals of special education has been

TABLE 2

Communication Within the Organization: Establishing Relationships--

Local Director

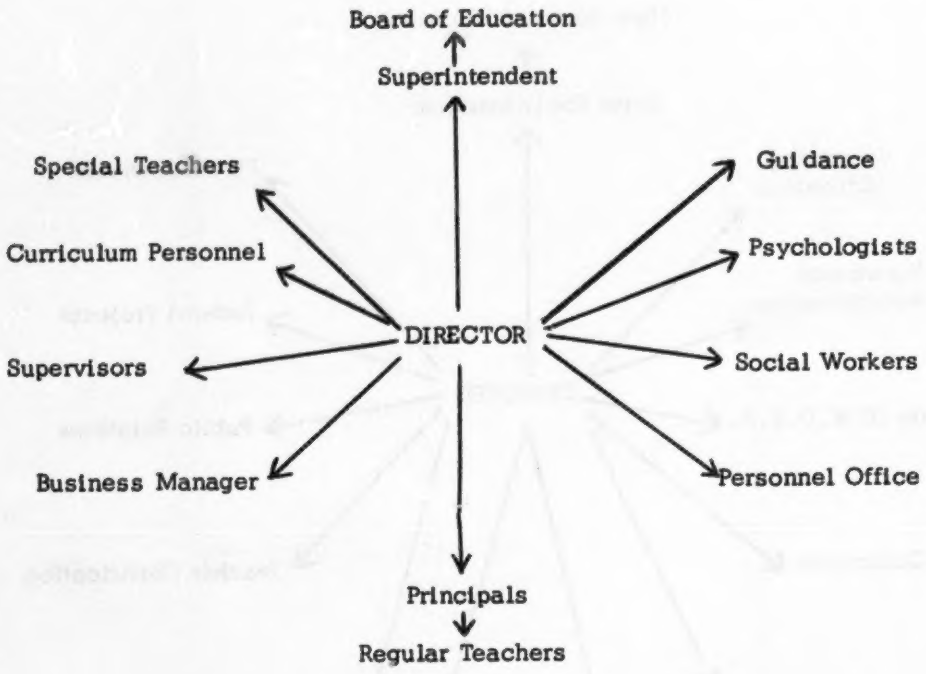
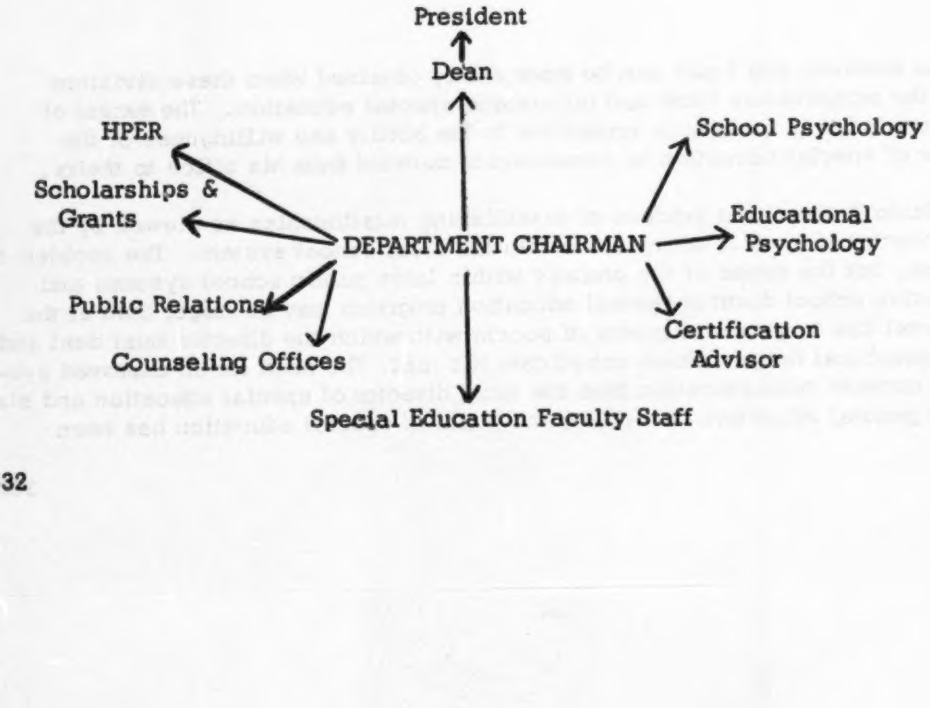

Board of Education
Superintendent
Special Teachers
Curriculum Personnel
Supervisors
Business Manager
DIRECTOR
Guidance
Psychologists
Social Workers
Personnel Office
Principals
Regular Teachers

TABLE 3

Communication Within the Organization: Establishing Relationships--

University Teacher-Trainers


President
Dean
HPER
Scholarships &
Grants
Public Relations
Counseling Offices
DEPARTMENT CHAIRMAN
School Psychology
Educational
Psychology
Certification
Advisor
Special Education Faculty Staff

reported so frequently that there can be little doubt that more effective relationships between general and special education must be established at the local school level.

Table 3 reviews the process as it might be seen from the standpoint of the teacher-trainer within the university. Again, major responsibility for the development of interdepartmental communication is seen as being within the role of the person serving as chairman of the special education department.

Establishing Relationships Beyond the Organization

Although we frequently have difficulty in establishing relationships and channels of communication within our own organizations and with those with whom we deal on an almost daily basis, the greater part of our communication difficulties may be attributed to that of getting information to and from persons and organizations outside our own. If we are to be able to obtain the kind of information from others which we would like to have and need to have, it is again necessary for us to extend ourselves outward to develop the communication linkages (relationships) with whoever or whatever has the information we desire. Table 4 shows most of the linkages the state department of education must hook up with. It is (or should be) the goal of every state director of special education that he, or a member of his staff, become as intimately acquainted as possible with:

1. Every special educator working in the schools of his state.
2. Every school superintendent of every school district in his state.
3. Every special education teacher-trainer in the state and as many teacher-trainers in related fields as possible.
4. As many teacher-trainers in nearby states as possible.
5. The deans of the colleges of education of each university within the state.
6. The leaders of all state rehabilitation centers, private special school programs, state institutional educational program administrators, leaders of all vested interest associations dealing with handicapped children, and the leaders of educational organizations such as the state teachers' associations, the school boards' association and the school superintendents' association.
7. Key persons representing news wire services, state wide papers and television.
8. As many state legislators as possible and particularly the chairmen of the legislature's education committees.

Table 5 treats the outside communication linkage system from the standpoint of the local public school. The local director of special education in order to communicate to the public the goals and needs of special education in the schools must establish liaison with officers of civic and community organizations and with one or more key persons representing the news media. He should learn to use his state education agency as the primary source, on a constant use basis, for obtaining:

1. Information about federal programs.
2. Information about state funded and/or state operated programs.

TABLE 4

Establishing Relationships Beyond the Organization--State Department

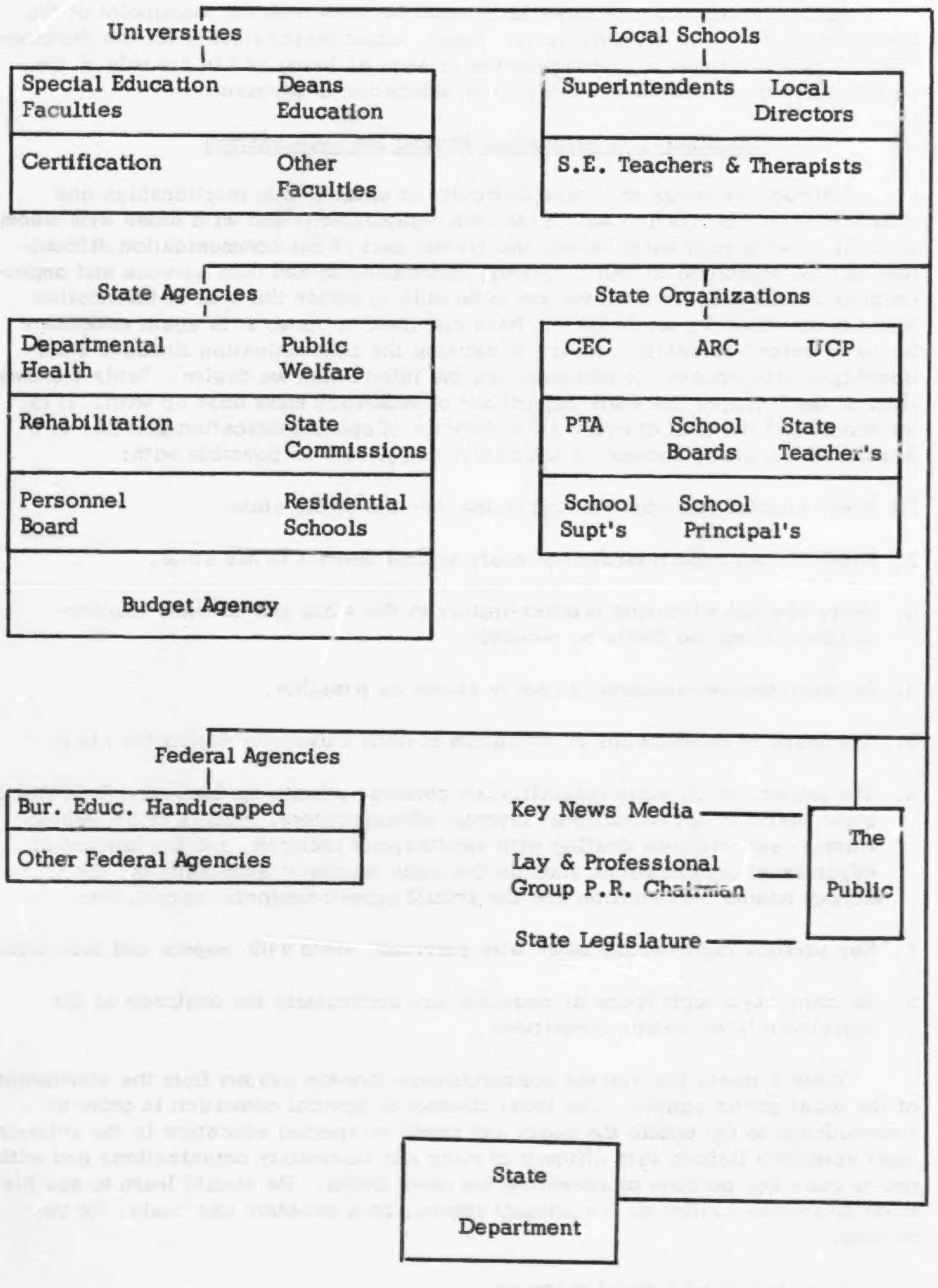
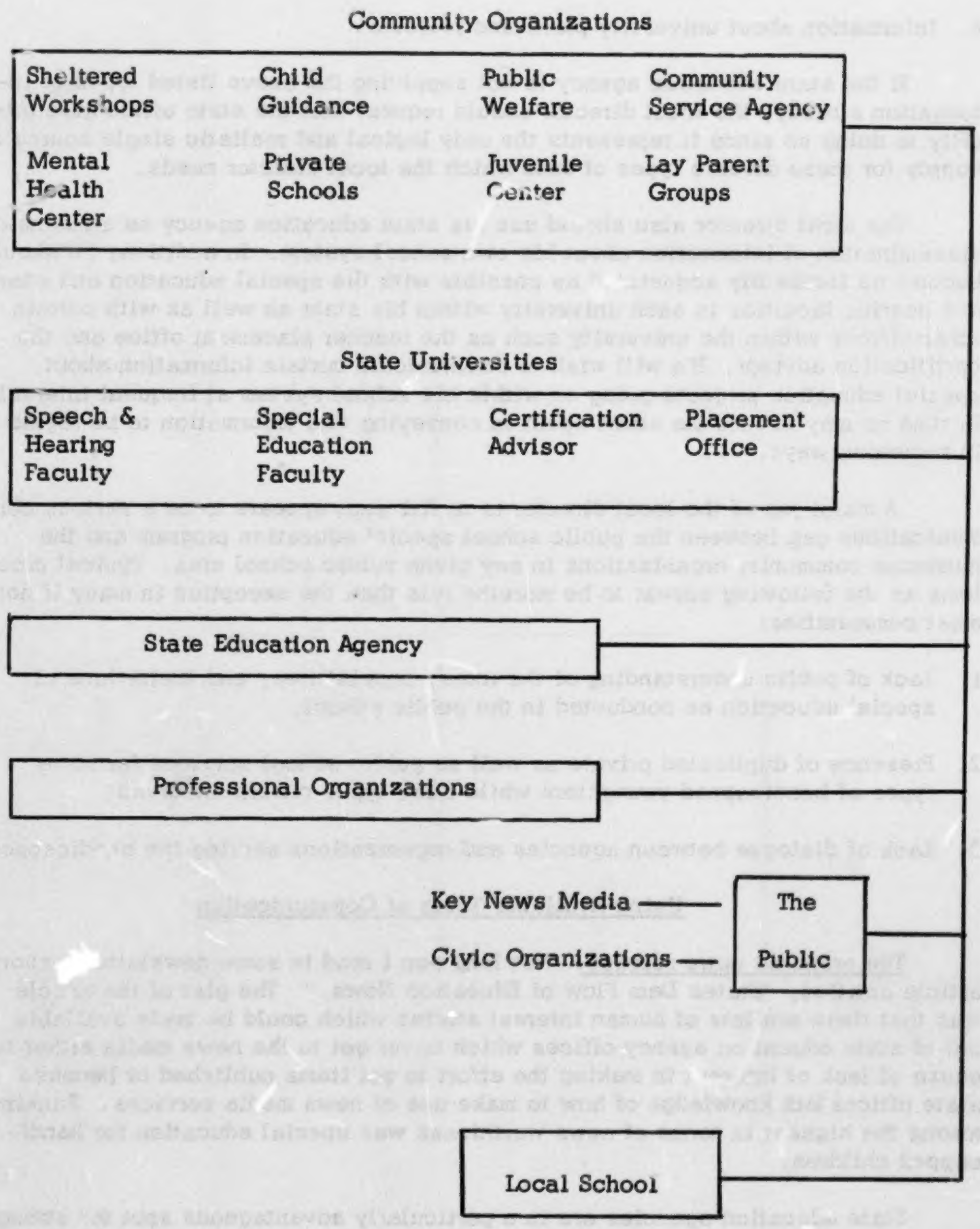

Universities
Special Education Faculties
Deans Education
Certification
Other Faculties
Local Schools
Superintendents
Local Directors
S.E. Teachers & Therapists
State Agencies
Departmental Health
Public Welfare
Rehabilitation
State Commissions
Personnel Board
Residential Schools
Budget Agency
State Organizations
CEC
ARC
UCP
PTA
School Boards
State Teacher's
School Supt's
School Principal's
Federal Agencies
Bur. Educ. Handicapped
Other Federal Agencies
Key News Media
Lay & Professional Group P.R. Chairman
State Legislature
The Public
State Department

TABLE 5

Establishing Relationships Beyond the Organization--Local School


Community Organizations
Sheltered Workshops
Child Guidance
Public Welfare
Community Service Agency
Mental Health Center
Private Schools
Juvenile Center
Lay Parent Groups
State Universities
Speech & Hearing Faculty
Special Education Faculty
Certification Advisor
Placement Office
State Education Agency
Professional Organizations
Key News Media
Civic Organizations
The Public
Local School

3. Information about state wide public school acitivites and experimental projects.

4. Information about federal and state legislative developments.

5. Information about state wide institutional planning and institutional activities.

6. Information about university plans and projects.

If the state education agency is not supplying the above listed types of information already, the local director should request that the state office give priority to doing so since it represents the only logical and realistic single source of supply for these diverse types of data which the local director needs.

The local director also should use his state education agency as a means of dissemination of information about his own school system. In addition, he should become as intimately acquainted as possible with the special education and speech and hearing faculties in each university within his state as well as with certain other offices within the university such as the teacher placement office and the certification advisor. He will wish to communicate certain information about special education projects going on within his school system at frequent intervals. In time he may expect the effort spent in conveying this information to be repaid in numerous ways.

A major job of the local director is to fill what appears to be a serious communications gap between the public school special education program and the numerous community organizations in any given public school area. Typical problems as the following appear to be morethe rule than the exception in many if not most communities:

1. Lack of public understanding of the roles, capabilities, and limitations of special education as conducted in the public school.

2. Presence of duplicated private as well as public school services for some types of handicapped youngsters while other types remain unserved.

3. Lack of dialogue between agencies and organizations serving the handicapped.

Using Available Tools of Communication

The prepared news release. Not long ago I read in some newsletter a short article entitled, "States Dam Flow of Education News." The gist of the article was that there are lots of human interest stories which could be made available out of state education agency offices which never get to the news media either because of lack of interest in making the effort to get items published or because state offices lack knowledge of how to make use of news media services. Ranking among the highest in terms of news worthiness was special education for handicapped children.

State education agencies are in a particularly advantageous spot for strong utilization of the news media since the state education agency is often housed in the state capital building to which are permanently assigned statehouse newspaper reporters and radio and television reporters and cameramen. The state director of special education, having a wealth of material concerning handicapped children's programs and projects available to him, having once established relationships with news media personnel whom he sees nearly every day, virtually has only to suggest that he has something of public interest to offer in order to obtain a taped television interview or to get a prepared news release out to the wire services.

The State of Iowa Division of Special Education has been particularly conscious of and adept at the use of the prepared news release for public information purposes.

In an earlier section of this paper it was suggested that the local director of special education cultivate one or more key news media persons in his local community. In Indiana, we are suggesting that a link-up be established between the state director and each local director of special education to help assure that news releases from the state office affecting or of interest to particular communities get in these local newspapers. The state office will simultaneously mail a copy of the news release to the local newspaper and to the local director. The local director, upon receiving his copy, will telephone his newspaper contact to request that the story be carried in that day's edition of the local paper.

Publications. Publications of various sorts, though not universally read, represent an important tool at all levels of operation. Several types of publications are used by state departments of education in helping fulfill their role as a communication agent. I've always been impressed by the *Bureau Memorandum*, a state newsletter published periodically and disseminated by the Wisconsin Bureau of Education of the Handicapped. The Kansas Division of Special Education also disseminates its newsletter called, *A Typical Report*. Indiana distributes four times during the school year 6,000 copies of its *OSPI Communicator*. Each of these states attempt to disseminate information concerning federal programs, state department programs and activities, as well as many other items of interest.
Other types of publications most state departments use to disseminate information include:

1. Printed proceedings of special study institutes.

2. Annual reports.

3. Reports of federal program Title VI projects.

4. Special topical bulletins.

5. Special bulletins for school administrators.

One of the best received new ideas which the Indiana Staff has devised this year is a series of publications which we call the "Teacher Information Service" which is available upon request to all Indiana teachers at no cost. This service consists of pertinent short papers which have been prepared for teachers on methodology, use of new techniques or materials, or presentations which have been made by guest lecturers in state conferences or workshops. A "School Administrator Information Service" is also being developed.

Workshops and institutes. PL 85-926, as amended, has provided the states with opportunities never before available to congregate groups of special education teachers and other personnel who work with the handicapped for the purposes of studying special problems in the education of such children. Most states have also conducted planning and development workshops to study and develop priorities for the wise expenditure of Title VI, ESEA funds. All these, when creatively planned and utilized, can contribute to the betterment of the communication difficulty.

Called conferences. State Departments of Education may need to take on an expanding role in the planning and calling of state wide or state regional conferences on various aspects of special education. During the next school year, the Indiana Division of Special Education plans to hold regional conferences in five regions of the state for school superintendents to help plan for and organize innovative special education programing. The Wisconsin Bureau of Education for the Handicapped regularly sponsors joint meetings between its staff and the special education faculties of universities in the state to provide a communication linkage between those vital elements of special education in Wisconsin.

Staff visitations. The State Education Agency staff is in unique position to maintain communication links through professional visitations of the staff. It isn't possible to expect a relatively small state special education staff to communicate through visitation to all of the segments of the public with whom we need to. It is possible, however, for the state staff to maintain a fairly continuous schedule of contact with the local and intermediate directors of special education and with the university training centers. Recently, the Indiana Division of Special Education segmented the state of Indiana into five geographical regions within each of which a Regional Special Education Consultant is employed. It is the particular business of these individuals to establish and maintain continous communication relationships with each school superintendent in their region.

References

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THE WRONG QUESTIONS

by

John W. Kidd

The classic wrong question was, "Do you still beat your wife?" A more recent, more memorable, and more relevant wrong question was, "What can my country do for me?"

A wrong question which I encountered recently was, "At the beginning of the school year, which is more important--for the teacher to be aware of the children's self images or of his own reactions to the children?" This one is answered by saying, "That's like asking, 'Which is more important in a child's life, heredity or environment?'" In my simpleminded way these three are parallel; in each case one is asked to do the impossible, i.e., to assess the relative importance of two indispensable ingredients--the first, both are vital for effective teaching--knowing how the children see themselves and how the teacher himself reacts to them; the second, for a functioning motor vehicle, you move only with both a motor and fuel; and the third, you're dead without either heredity or environment.

We're given to careless habits in language, to lack of linguistic integrity in much that we say and write and, no doubt, in much of what we see and hear as well. We ask, "Is he really gifted?" when we mean, "What is his potential?" or "What is the definition of giftedness in your program?" We ask, "Is he really retarded?" when we mean, "Is his retardation due to deprivation of childhood linguistic stimulation?"

My wife asked me, "Did you stop at Tom's on the way home?" I said, "No!" She then asked, "Were you late leaving the office?" I said, "No!" Then, "Did you have a flat tire?" "No!" "An accident?" "No!" and finally, what she was really asking all the time, "Well, where have you been?" Whether I told a white lie at that point or not is irrelevant, of course. My concern here is stressing the silly question--silly answer games we play with each other.

An advisee told me recently about his masters thesis, "I propose to answer the question, 'Can academic gains as measured by an achievement test be correlated with changes in mental age?'" "Now, Richard," I interposed, "that is not the question. Any two things which are quantifiable, measurable in meaningful units can be correlated with each other. To correlate is merely to statistically manipulate so as to obtain an estimate of similarity or dissimilarity. The question you propose to investigate is, 'Are academic gains positively correlated with gains in mental age?'"

What About Children?

We so often find ourselves asking questions about children like, "Is he or is he not brain damaged? Autistic? Emotionally disturbed?" We have a terrible habit of reifying classifications. We ask, "Is this a plant or an animal?" when we detect signs of life under the microscope as though the classifications came first and everything in the domain now and forever must fit an already designated class. We seem to need to be reminded that a classification is a man made device designed to make more meaningful and more communicable some aspect of awareness.

The theoretically perfect classification of any domain is a taxonomy which by definition is both all inclusive, limitlessly expandable, and characterized by mutually exclusive categories and subcategories. The classic taxonomy is the Linnean system of classifying life forms. But the question asked about the newly discovered life form is not, "What is it?" but "Where does it fit if it fits?"

Similarly, with children, if we classify educationally significant handicapping conditions as either a general learning disability or one or more specific learning disabilities, each having subcategories reflecting the dimensions of severity and remediability, the question then is not, "Is he general learning disability or specific?" It is not a taxonomy of people but of disabilities. Since a person may have more than one disability, the question is, "Which one or more of these disabilities characterize this person?"

Too, we love dichotomies: Is it black or white? Is he trainable or educable? Is he partially sighted or blind? Is he a genius or just gifted? Does his articulatory problem warrant speech therapy or not? Shall I vote Democratic or Republican? Like third parties and fourth parties and multiparties, once we conceive of a differentiable dimension we have the basis for an infinitely differentiable continuum.

Even when we move beyond the dichotomy--plant-animal, black-white, element-compound--we seem to try to stop as soon as possible--like seven primary colors, like 92 elements when we know full well that differentiation of colors and simple matter cannot be accounted for in such simple ways.

The more we learn about learning the more we realize that no simple, small number of categories of learning disabilities will suffice if we are to maximize meaning and communicability. Once we tried. We said, "There are just three primary types of exceptionality--mental, physical, emotional or, a la Guilford, Bloom, et al., cognitive, psychomotor, and affective." Well, this is tenable but insufficient--insufficient in that a child may be multiply involved and insufficient in that he lacks specificity. If we are to move ahead it must be toward specificity of need and prescription of remedy in spite of the cry of alarm from the "antifractionaters." The analogy to medicine refutes their battle cry. We do not treat all disease with aspirin. We do not fractionate the person to treat his specific virus, nor need we do so to remedy his specific learning disability. Only if an educational practitioner is so preoccupied with the disability that he forgets the child is there need for concern that the child is being fractionated, as with the hypothetical physician who is so concerned with pickling the excised appendix that he lets the patient bleed to death.

Another wrong question we ask each other is, "What is his IQ?" You know he really doesn't have one--he scored one or two or many at a certain time, place, and circumstance for a certain examiner. Our confidence in standardized measures of height and weight are such as to warrant the questions, "What is his height or weight?" but not his IQ. Particularly in our discussions with patients we must guard against this kind of question and answer.

What About CEC?

The wrong question the prospective member may ask is, "What can CEC do for me?" The right questions are "What does CEC do for exceptional children and youth?" or "What can I do for CEC?" and, incidentally "Do I receive any direct benefits from CEC?"

As you know, the answer is strongly affirmative.

CEC serves exceptional children by publications for members and nonmembers. Not only is there our journal Exceptional Children mailed ten times each year to all members, but also our new quarterly journal TEACHING Exceptional Children is available by subscription; journals and newsletters of the divisions and Student CEC; and books and pamphlets and monographs by the dozen--publications representing the forefront, the very cutting edge of special education. In the planning stage is at least one special publication on infant and early childhood education after our pioneering international conference in New Orleans December 9 to 13, 1969, on the same topic.

CEC serves exceptional children by a system of information storage and retrieval--CEC Information Center, our ERIC project. Now students and scholars can obtain sources of information, even copies of information selected to fit their criteria, quickly and inexpensively.

CEC serves exceptional children by collecting and disseminating needed information to the states. Our Study of State Legislation is now codified and arranged for frequent updating of statutes and regulations pertaining to the exceptional children in the 50 states. We have provided special conferences on legislation and consultative service to states seeking statutory revision. Senator de la Porte of Florida told me recently that the two Florida legislators who attended one of our three legislative conferences held last year have now been appointed to key committee chairmanships in the legislature of that state.

What About Congress?

Perhaps in no area does CEC render greater service to exceptional children than in the halls of the Congress. No one seriously questions our role as being the most critical factor in the creation by Congress of the Bureau of Education for the Handicapped in the US Office of Education. It was no more coincidence that our President then, Dr. James J. Gallagher, was selected as Associate Commissioner of Education to head that Bureau.

CEC had a similarly vital role in the whole series of special education legislation of recent years--the amendments to Public Law 89-10, the Elementary and Secondary Education Act, to specify that 15 percent of Title III funds be expended on the handicapped, that the handicapped in state schools would be aided per P.L. 89-313, and that the handicapped in day schools would be helped per Title VI. Recently the Congress ruled that 10 percent of Vocational Education funds should go to aid the handicapped and, under the Handicapped Children's Early Education Assistance Act, provided federal funds to explore the potential of educational intervention in the lives of very young handicapped children. Relatively unheralded is a bill now before the Congress which is the work of CEC and its division known as The Association for the Gifted. While less than we would like, this bill would express Congressional interest in more intensive and extensive efforts by the states to invest in our most able children and youth.

In the March 24, 1969, issue of the Congressional Record, the following letter appears near one by Dr. Joseph French, President of CEC's division, The Association for the Gifted:

> Dear Senator Javits:
>
> On behalf of The Council for Exceptional Children and its 38,000 members concerned about the education of handicapped and gifted children, may I take this opportunity to commend you for your leadership and spon-

sorship of S. 718, the Gifted and Talented Children Educational Assistance Act of 1969.

The gifted and talented child represents one of the greatest resources of our nation. While we have established massive efforts to reclaim and preserve many of the great physical and natural resources of our land, little or nothing has been done to develop the resource that will provide our leadership for future generations. With numerous federal programs which the Congress has wisely established for the improvement of education, there is no program designed to meet the unique learning needs of the gifted and talented child. Your bill is an excellent step in this direction.

Again, we commend you for your interest in the problems of the gifted and talented child and please be assured of our support in seeking passage of this bill. We hope that consideration will be given to the bill during the hearings on the Elementary and Secondary Education Amendments of 1969. If we can be of any assistance in this regard, please do not hesitate to contact us.

Sincerely yours,

John W. Kidd, Ed.D.
President, CEC

It may be that federal money will be forthcoming to assist in the effort. Eventually it is at least theoretically possible that the Bureau of Education for the Handicapped could become the Bureau of Education for the Exceptional.

Perhaps nothing symbolizes our effective relations with the Congress better than the recent second anniversary celebration of the Bureau of Education for the Handicapped, held in the Capitol building, hosted by eight members of the Congress and attended by others, where Bill Geer, our Executive Secretary, was Master of Ceremonies, where your President proposed the toast of recognition, and where all Congressional members present pledged continuing support for aid to the handicapped.

But don't let down your guard!

The wolf pack is in full cry. The target, as usual, is the smallest and weakest member of the herd--the exceptional child.

Title I of the Elementary and Secondary Education Act, according to the Keppel-Morse Memoranda, was clearly intended by the Congress to serve the economically disadvantaged and the handicapped. Legal opinion restricted the Office of Education so that it only affected the economically disadvantaged, and not nearly all of them. Only with amendments known as Title VI and Public Law 89-313 did the handicapped come in for their share. In the process, the greatest single forward step was taken--the creation by Congressional mandate of the Bureau of Education for the Handicapped in the US Office of Education.

Title III of the Elementary and Secondary Education Act which generated and supported innovative and exemplary school programs, intended for all children, was found typically to minimize or omit the handicapped from its benefits until amended to specify that 15 percent of such funds would go to the handicapped.

The Vocational Education Act of 1963 was clearly intended to provide for the vocational education needs of all youth but it took the 1968 amendments to literally restrict the expenditure of 10 percent of these funds to vocational education of the handicapped.

And now, as mentioned, we have a bill before the Congress to stimulate more widespread investment in our most intelligent and creative children and youth. It has our support. But the wolf pack has zeroed in on the 15 percent of Title III for the handicapped. It is almost certain to attack the 10 percent of vocational education funds for the handicapped. It is very likely to oppose special federal funds for the gifted. It has suggested that we do not need Title VI. It may be expected to resist broadening the base of Title I. And you should not be surprised that it has hinted already that the destruction of the Bureau of Education for the Handicapped is an eventual target.

Children of poverty under Title I receive help from it only if they are in a target school. Typically, this means that 28 percent of the pupils in that school must come from homes of less than $2,000 annual income. The same deprived child in a school which misses the "quota" by a single percentage point gets no Title I benefits.

If we are to maintain our gains on behalf of the exceptional, much less make new gains, it is essential that our membership be kept informed. Among the things we hope special educators will support are these:

1. Maintain the 15 percent for the handicapped provision of Title III of P.L. 89-10.
2. Maintain the 10 percent for the handicapped provision of the Vocational Education Act as amended in 1968.
3. Fully fund, fully implement Title VI of P.L. 89-10.
4. Intelligently invest in our most intelligent children and youth--support funds for special education of the bright and gifted.
5. Get Title I (of P.L. 89-10) benefits to all the economically disadvantaged--do not restrict it to target schools.
6. Beware of the "block grant--no categorical aid" advocates. Too often this is the benign posture of the wolf pack--in lamb's clothing.

What About the Future?

Your reactions would be helpful relative to the follwoing suggested and other possible high priority items for CEC:

1. Infant and early childhood education. (a) for the disabled (experimental work now having federal support under the CEC supported "Handicapped Children's Early Education Assistance Act"); (b) for the most able; and (c) for all (thereby, preventing many specific learning disabilities as well as much general learning disability at traditional school age).
2. Education of the most able infants, children, and youth. Too long have rationalizations, ego projections, and vested interests prevented the logical

investment by this society in its most profitable component--the talents, the creativity, and the leadership potential of its most able children and youth. Should not USOE's Bureau of Education for the Handicapped be changed to Bureau of Education for the Exceptional with the appropriate stimulation and model developing capacity of federal funding for the so called "bright and gifted"?

3. Education of the exceptional of traditional postschool age. As a title, Council for Exceptional Children has not restricted involvement with youth, nor should it with adults. The education, reeducation, and general welfare of the adult exceptional need CEC's attention, its coordinative experience, its concern, and its influence and leadership.
4. Education of the exceptional in private, parochial, and residential facilities. While they have not been ignored, the exceptional who are not in public day schools have had less than their proportionate share of concern by CEC--as a reflection, no doubt, of CEC's preponderantly public day school affiliated membership.

The Education and general welfare of the most able and the least able are CEC's cause for being--whatever they are, irrespective of creed, race, sex, or national origin.

The wrong question, "What does Bill Geer do with his time?" should be "Where does Bill Geer find time for all that he does?" Bill has gathered around himself in our Washington office a staff of bright and committed individuals. We have recently been referring to them as Geer's brain trust. We are proud of Bill--his work and his fine leadership, for it is he, not your temporary President, who provides the continuing year-in, year-out guidance of this great organization toward its manifest destiny.

And that destiny?--To become increasingly and rapidly the voice of our collective wisdom as well as our collective consciences on all educational matters pertaining to our most able and least able citizens. As the American Association of Instructors of the Blind affiliated with CEC and its Division on Communication Disorders, the American Association on Mental Deficiency would do well to affiliate with CEC and its Division on Mental Retardation. The Orthopsychiatric Association would do well to affiliate with CEC and its Division known as the Council for Children with Behavioral Disorders--and so with other professional organizations interested in the welfare of the exceptional. This emerging coalescence might very well include affiliation by the Easter Seal Society, United Cerebral Palsy, the National Association for Retarded Children, and other lay groups with whom we share common objectives. Only then may the swelling voice of need representing all our exceptional persons reach the mighty crescendo of irresistable moment in our nation's affairs.

In Closing...

There is a legend, a myth perhaps, that the stately swan in all his regal majesty is an animal to whom the prospect of death is as real as it is to man and that immediately prior to his leaving this incarnation, and only then, does he give voice to a song of incredible sweetness. Thus came the derivation of our term "swan song" for the final pronouncement before turning over the gavel. And on June 1, I do so.

So, to my successors in order, John Melcher and then Sam Ashcroft, and to their successors goes my wish for success and happiness in the performance of the role of President of our great professional and humane organization.

To Bill Geer and his brain trust and to all their helpers in the Washington office go my gratitude, admiration, and wish for fulfillment.

To the executive committee of 1968-69 goes my praise--you were prompt, you gave of your wisdom and of your time unstintingly.

To the governing board and the delegate assembly in Denver goes a word of encouragement. You served well to bridge the gap between the membership at large and the executive components of CEC designed to carry out your wishes. As individuals I encourage you to continue your commitment through CEC to the welfare of the special child.

To the membership at large, and to the officers of your chapters, federations, branches, and divisions, may your numbers grow and with it the strength and effectiveness of CEC.

And a special hope for Student CEC--you are CEC tomorrow. May we today set the models to turn you on and keep you turned on tomorrow in our crusade for the least able and the most able, too, to have the American chance.

If I may leave with you a message to endure, to treasure, a message that may well guide your future leaders as I have sought to follow its mandate, it would be these simple words, the origin of which I have not been able to determine:

> "I shall pass through this world but once. If,
> therefore, there be any kindness I can show,
> or good thing I can do, let me do it now; let me
> not defer it, or neglect it, for I shall not pass
> this way again."

FUTURE PLANNING FOR SPECIAL EDUCATION

by

James J. Gallagher

The lives of educators seem to be mainly composed of questions and answers, yet we rarely pay too much attention to how we frame questions, or how we decide which questions are the ones to ask.

I can recall in my past research days that we had a lot of fun asking children questions such as "How many different ways can you use a brick?" As those of you who have been involved in studying imagination or creativity are well aware, that is a very different question to the more traditional question, "What is a brick?" or "What do you use a brick for?"

The first question is a mind expanding one. It stirs the mind to seek new associations and new solutions, whereas the more traditional question is a narrowing in on traditional knowledge. Both of these types of questions are useful at various times and for various purposes, but they certainly produce vastly different responses, and even attitudes, on the part of the one making the answer.

Since the effort for the handicapped at the federal level has become a major program only in the last few years, rising from $1 million about a decade ago to over $100 million this year, I thought I might explore with you the kinds of questions that we might all ask ourselves regarding the federal effort that would be most productive.

The System Question

A question frequently heard is, "What is the federal government doing to help our local educational system?" I would prefer to approach that question with another one, "Do we really have an educational system?" If we use a definition of system as a set of elements or parts which have a definable organization or interrelationship, do we have a system? We can understand a transportation system, the telephone system, or a highway system as an interrelationship of parts. But where are the interrelationships between our efforts at reasearch, development, demonstration, dissemination, training, and direct services? Research is generally done in a university, often far removed from service programs. How do our demonstration efforts get translated into improved training programs? How does curriculum or media development in Burlington, Iowa get translated into action in Tucson, Arizona? In my opinion, there is no such thing as an educational system, in the sense that all of these necessary elements of research, training, demonstration, and service are carefully programed together.

There has been sufficient evidence presented at seven regional conferences which the Bureau sponsored last year with about 1,000 special educators participating from 50 states, who reviewed important organizational problems or system design problems--to cause us to seek new solutions. For example, some of the most frequently voiced concerns were:

1. Research problems. Research efforts were judged as being too fragmented and far removed from crucial classroom educational problems. The special educational administrators and consumers of research do not see much of value to them in current efforts. There was recognition of a need to concentrate efforts to insure a more meaningful result.

2. Training problems. There appeared to be general dissatisfaction with training programs. Training institutions were the focus of criticism for being too isolated and for not involving the schools more in the planning of the training program. The lack of solid practicum experiences and knowledgeable supervision was a recurrent theme.

3. Need for new organizational patterns. There was much discussion about the need for new ways of organizing resources to more effectively meet the educational needs of handicapped children. In particular, this need to provide for new organizational approaches was centered on inner city and rural area problems.

4. Communication problems. There was a general and pervasive concern about the lack of communication at all levels and through all channels of special education. No one had much confidence that we were on the way to developing the kind of communication systems that seem necessary in a complex and interrelated modern educational system.

All of these issues focus on the lack of interrelationships--the lack of system.

One of the most effective actions of the federal government would be to encourage the development of those necessary linkages or relationships that could lead to an educational system for the handicapped in the true sense of that term. This we accept as one of our long range objectives.

One advantage of pulling together the great majority of educational programs for the handicapped into a single organizational structure, the Bureau of Education for the Handicapped, is that it allows us to make a concentrated and systematic attack on specific problem issues. One example is the area of early childhood eudcation for the handicapped. It is clear from both the literature in this field and your experience, that the earlier one can identify the handicapped child and can intervene with meaningful experiences, the more likely it is that the handicapped child will be helped. To use the limited resources of the federal program with maximum benefit we have tried to put together various elements of the system--research, development, demonstration, training, and implementation--as a total effort in this area. First, we are planning to fund a research and development center in early childhood education. This center will take its place with the six existing laboratories in early childhood education currently funded with the Bureau of Research and will be a member in a network of centers that will be communicating closely with the other centers, as well as conducting research and development in the particular areas of the handicapped. Second, we hope to support programmatic research in curriculum development in the area of early childhood education and we are encouraging persons to pursue these kinds of activities.

Third, we are now implementing a model and demonstration program of early childhood education centers for the handicapped. This program has been received with tremendous enthusiasm considering the limited resources that we have to give to it--$1 million in fiscal year 1969. We've had over 1,200 inquiries and we will be able to support approximately three operational grants and about 22 or 23 planning efforts in this area. Nevertheless, we hope that these will provide illustrations of exemplary practices that can be utilized in other settings.

Fourth, we are planning to fund special training programs in this area, both to train the personnel in the model centers and also to investigate models for effective training of personnel at the preschool level. Finally, we are encouraging our friends in the states through federal programs, such as Title VI-A, Title III, ESEA, and in PL 89-313 funds in the state institutions, to take a serious look at the area of early childhood education to see if funds cannot be profitably spent in program development at this age level.

Above all, on a system's philosophy, we expect the research center to help the demonstration effort, the training center to improve the staff functions of the center, and all efforts will be made to help state and local programs in this dimension.

The Decision Making Question

We have already talked about systems. Let's look at educational decisions and how they are made. A question frequently asked is, "Are the handicapped getting their fair share of funds?" A more fruitful question might be, "How do decisions on allocation of funds get made?"

The field of education has just begun to recognize and face up to some of the problems stemming from existing systems for educational decision making. Two major decision making strategies can be identified and both of these turn out to be catastrophic for minority groups such as handicapped children. The first strategy can best be identified as the majority rule approach. In this instance a popularly elected school board or state legislature establishes educational policy mainly through control of the budget. These official bodies represent the dominant element of a community or region, but are often unrepresentative of minority interests.

Another major strategy in educational decision making is the utilization of consensus judgment by drawing together groups of people to represent all spectrums of opinion. The smaller the group the greater the emphasis on generalists, so that representation will cover the broad scope of the topic in question. This approach often, but not always, eliminates special education. Even if special educators participate, the consensus usually swings toward the middle of the spectrum and away from the extremes. The unspoken, but powerful educational philosophy, seems to be the greatest good for the greatest number. This concept is good--unless you are part of the lesser number. That is where the handicapped are.

Unfortunately, many regular school administrators do not have a background of personal experience with handicapped children, neither do they have any academic contact with the handicapped area. They invariably underestimate the abilities of a handicapped child in a positive environment and view special education expenditures as charity more than opportunity.

One of the informal theories that applies to both educational administration and political administration could be called the "devil" theory. If things go wrong or if objectives are not obtained, then one seeks the villain or devil, who, through his evil and treacherous design, has caused our noble dreams to go astray. We still enjoy the exciting game of symbolically decapitating the person who has "failed us," whether he be a school supserintendent or a President of the United States. After we get over our pleasure from this gladiatorial type of banishment, we often find that the same problems still face us, the same issues are yet to be resolved, and so there are new villains to search for. We can make life an interminable series of cheap western movies or confrontations where there is the inevitable villain, the man in the white hat, the shoot out at high noon, the victory, and the hero riding off to find another town to clean up.

But if there are no devils, can there be angels? Probably there are not, but only persons who seek to accomplish goals that are important to themselves. I am dubious about the man who says he has left self interest behind and thinks only of others. He is either trying to fool me, or worse, he has succeeded in fooling himself.

The most we can hope for is that your self interest is tied to my self interest, and that your concept of prosperity and good education includes everyone, not just a very select "in" group.

If improper organization is what leads to these types of unfavorbale decisions for the handicapped, then how can we modify or change that organization?

The Bureau of Education for the Hancicapped, established as one of the six operating Bureaus in the Office of Education, represents an attempt to modify the educational strategies of majority rule or consensus judgment. It provides a voice at a high policy level for the interests of specific minority groups that have in the past had great difficulty in having their own special needs paid attention to within the huge river of general education. There are many different ways in which this kind of organizational structure seems to have paid off, not only in effective policies suited to the needs of the handicapped, but also in establishing communication channels that previously had not been operational at all.

In particular, in my role as Chief of the Bureau of the Handicapped, I have reported on our activities to groups, such as the Chief State School Officers. This is a very influential and hard group to reach because their concerns range over the entire spectrum of educational activities. I have twice had the opportunity to make a formal presentation to this group and have heard much interest expressed on their part although they mention, interestingly enough, that this is the first time they had ever really had consideration of these issues within that group. Organizations such as the Compact for the States that are vitally interested in long range educational problems, such as relationships between the federal and state level, have had some discussions with us on the handicapped where previously very little consideration was given for this special problem. The various advisory committees to general education programs, such as the National Advisory Committee on Vocational Education and the National Advisory Committee on Supplementary Centers and Services, have invited the representatives of the handicapped to participate and communicate on the nature and direction of their programs. In the past February, the handicapped interests were involved in four TV presentations at the convention of the American Association of School Administrators, a group that previously has not had too much contact with representatives of the handicapped.

Another clear organizational advantage is surely the ability to defend one's own programs in testimony before Congress in such groups as the Subcommittee on Appropriations. This means that instead of the handicapped budget being defended by a general educator, whose knowledge of specific programs in this area would be extremely limited, we are able to bring a team of handicapped professionals to answer specifically, and in professional detail, what these programs are about and what they are attempting to do. A very similar kind of situation can be reported in the contacts with the Bureau of the Budget.

The Bureau of the Budget is the President's arm in the Executive Branch of the Government; they are the watch dogs of the budget; they operate as a calming influence upon the various agencies within the Executive Branch, each of whom feels that his budget should be doubled or tripled to meet what he naturally considers to be very legitimate needs. The Bureau of the Budget gives great scrutiny to these programs, so it is important that the programs themselves be adequately defended.

The Independency--Dependency Question

One of the natural yet unproductive questions that we hear is, "When is the federal government going to make up for the deficiencies in handicapped programs in community X or state Y?" A more relevant question would be, "How can the federal government act to strengthen the capabilities of special educators and school systems to deal with their problems?"

An ever present danger of federal support is that, poorly designed, it can weaken rather than strengthen the people it is trying to help. We need not despair at that fact. We only need to be cautious that federal aid, like other powerful medicine, has to be carefully applied. A noted psychiatrist, Eric Fromm, once wrote a book entitled Escape From Freedom which detailed man's frequent desire to escape the precarious and anxiety producing state of independence and retreat to a more comfortable dependency. There is an exhilaration and excitement about being able to control a piece of one's environment but it is not without its cost--that cost is anxiety.

If as a goal in life we seek a worry free state, then we do not seek freedom, we seek dependence. Our federal goal is not to substitute for local effort; it is to provide the yeast that will allow the dough to rise for all of us. We have conceptually, if not financially, almost completed the circle of legislative authorities that would seem necessary to allow us to play that catalytic role. Federal programs now provide support for programs for handicapped children in institutions and public schools, and in some circumstances, private schools. These legislative authorities provide support for preschool and secondary programs and sometimes post secondary efforts. They provide research money to discover new methods and new insights, to develop curriculum of new materials or new uses of media, to demonstrate and model activities to disseminate new organizational structures and methods; they provide training money to produce specialists to work with the handicapped.

Through cooperation with the Bureau of Educational Personnel Development, additional training efforts are being planned to help regular educational personnel and to produce more teaching assistants and aides. Yet all of these activities still represent a financial contribution of only about 10 percent of the total money spent in the US on educational programs for the handicapped. The majority of the effort of providing services will remain at the local and state levels, but the federal effort will provide funds for discovery, tryout, and distribution of new ideas and materials, for support of training activities, and to allow states to extend and expand their activities. In special problems like the deaf-blind and other multiply handicapped children, we can take a more definite role, at least in the beginning. We are going to fund eight centers that will concentrate on providing resources to enable regional centers to diagnose and provide needed educational services for deaf-blind children.

We have a garage full of vehicles, but we still have limited fuel. To a large extent, your fuel problems and ours, are one small corner of the problem of our national priorities. Many of you coming to this convention traveled on a fine beltline around the city of Denver, an important part of a modern transportation system. Every time, however, that your taxicab or car clicked off a mile on that beltline system, you should realize that the cost of constructing that mile was about nine million dollars. If you traveled completely around the beltline in Denver, the cost of that section of road surpasses the total federal budget for all aspects of education for the handicapped for either fiscal year 1969 or 1970.

As many observers have pointed out, the "thin" ABM system under consideration has an estimbated cost of six billion dollars and would probably amount to a good deal more than that if other experience of such estimated costs give any guidance. This ABM program will cost almost twice as much as the total of all of the 113 programs administered by the Office of Education.

The very bulky document called the Budget of the United States of America is not beautiful prose--it will never win a Pulitzer prize. What it is, however, is the fingerprint of our society. It tells of our intended deeds and it says more about us as a society than all of our rhetoric.

Too often in the past, educators have operated as if they believed their programs' virtues were self evident. They believed that if they would be good, "Papa" would be generous and give us a piece of candy, whether that papa be a school board, or a superintendent, or a federal government. This is the ultimate in the dependency reaction. I think it is quite clear that resources will accrue to education, not alone on the basis of any manifest value, but upon a greater understanding by educators and those who value education of how political decisions are made, how allocations of always limited resources are determined--whether at the community, state, or federal level.

Those who retreat into the comfort of "We can't do anything about the system," need to be reminded of the parent groups and their legislative accomplishments. CEC has been particularly alert to legislation and government activities and is highly respected on the Washington scene, but derives its force from you, its members, and will be as effective as your active interest and support.

The Regular--Special Education Question

Another question of current and future importance to us is, "Why don't regular educators pay more attention to us?" In many communities we can still see special education operating as a small isolated unit in the total school system. Children who can't make it in the regular system are placed in that unit and as long as there is not too much fuss or noise on that side of the fence--that may be as much as some regular educators hear or want to hear about the handicapped. Who built this fence that divides the regular and special educator? There probably was a great deal of help from both sides, since it is so comfortable to stay with our own family group.

It is surprising to those of us not schooled in organizational sociology to see how hard it is to interact constructively with others who are not perceived to be in our professional family. Over a period of years as I have looked at various kinds of organizations and groups, I have been repeatedly surprised how many analogies I can draw upon in comparing the large Irish family I knew as a child and the various groups such as special educators.

My mother was one of 13 children. As a result, holiday family affairs always resembeld a scene of unimaginable confusion. Nevertheless, all the necessary things seemed to happen and work out properly, including a dinner where usually forty or fifty persons were seated and the largest bird east of Denver was carved up to satisfy the hunger pangs of this huge crowd.

There are many things I can remember about this Irish-American family. I can remember that along with the good times there was often strife between certain members of the family. Nevertheless, all of the members of the family were able to unite against any outside threat and present a united and aggressive front to the outside world. One of the problems in the family had to do with in-laws who must, at times, have felt that they were coming into a closed corporation. Indeed, the difficulties of being an in-law under these circumstances were substantial. I have come to the conclusion that it is a cultural--not an individual experience.

As I grew older, I noticed some of the shortcomings as well as some of the virtues of this family arrangement. One is that the defensive posture of the family kept us from enjoying to the maximum the fruits of the heritage of other cultural groups. For example, one can be deprived of enjoying the Italian's love for art and music, or the love of knowledge and the appreciation of the intellect of the Jewish community, to say nothing of the dry wit of the English--which like anything else British was not acceptable in an Irish family. Many times, unless one is a member of the family, it is even hard to attract the attention of the family itself.

It seems to me that in some respects the family of special education responds in similar fashion. They fight among themselves a lot, they unite when threatened from the outside, and it is hard to get them to listen to someone not in the family or someone perceived as an in-law. I think it's time to ask ourselves, "How can we keep the many advantages of the special education family and at the same time grow, prosper, and profit from ideas that come from outside the family itself?" How can we work with other disciplines that share common interests with the field of special education? The family, as a societal unit, would be hard put to survive on its own in the current structure of society. Consequently, it seems to me that we have to look for a means to adjust and work with the larger system that modern life has imposed on us.

If the special education administrators pull their heads into a shell or retreat into their own little family group, they will miss the clear advantages to be obtained from such advances as the Individual Prescribed Instruction efforts which provide much food for thought and perhaps some potential models for special education. Some special educators would, of course, maintain that we invented individually prescribed instruction--perhaps not so much through choice as through necessity because of the extensive individual differences in our children. Such comments ignore the comprehensive research and development work that lie behind the use of this IPI system and rarely can be found in special education.

At the Kendall School in Washington, D. C., there is a blend of curriculum and technology that allows a deaf child to sit at a console and communicate with a computer at Palo Alto, learning the "new math" programs developed by Pat Suppes. We are now funding a major effort to translate some other major curriculum programs to the field of the handicapped. But how many other examples of that sort of thing are there?

We are in fact dealing with one huge probelm or set of problems in applied sociology. What effect does the design of a special education program have on the staff, their self image, the image of the children? What kind of interaction does this program have with parents and how does this interaction depend upon community acceptance? How can one seek general educator acceptance and approval, and encourage participation between staffs of regular and special education?

Title III, ESEA for Supplementary Centers and Services and the New Vocational Education Amendments provide special education with a unique opportunity to become more involved with the regular education community. Congress has assured that the handicapped will participate fully in these programs by earmarking percentages of the total funds for those programs. The funds that must be spent on the handicapped programs are 15 percent for Title III and 10 percent for Vocational Education--a total of over $50 million to spend for the handicapped. In these programs special educators must work with other educators to plan programs.

Such interactions are almost never easy--sometimes they are painful. Somehow, I don't think that Congress passed them with an eye toward the comfort of educators or special educators, but rather to provide an expanded opportunity for handicapped children. These two provide an important opportunity to bring the handicapped child and youth into more effective contact with the total education program, a goal we all repeat to ourselves quite often.

The Evaluation Question

One question that seems to be quite nonproductive, but seems to be a very popular one with Congress and the administration, is the following: "Is Title VI any good and is it paying off?" For the term, "Title VI" could substitute any term--"Title I, ESEA," or "Headstart" or "Job Corps," etc. It sounds like an eminently sensible question, but I believe that it is the wrong one. A much better question is, "Why do we have so much trouble obtaining reasonable answers to such questions?" Now we are much closer to the heart of the issue.

The educational establishment is not organized to provide feedback on either the impact or quality of its programs. Sporadic attempts to generate such feedback have not been a great success; they yield only highly questionable results and conclusions. One of the ways in which the Bureau has been attacking this problem is to seek ways in which to strengthen the ability of schools and states to respond to questions of program impact. We need sophisticated tools and measuring instruments if we are to really measure program impact and we intend to devote some of our research resources to that problem.

We need more understanding of evaluation concepts and how they can serve the educator. Like the question, "How many ways can you use a brick?" the question, "How can you tell if what you are doing is effective?" creates a new attitude and a new emotional set in teachers and administrators. You have to ask yourself, "What is it that I am trying to do?" "What are my objectives?" You have to ask yourself, "How do I gather information to answer the question and what kind of information is most useful?" This will require changes in preservice and inservice training to establish such an attitude and we will devote some of our training resources to that job.

We are currently seeking ways in which we can help the states develop the capability to respond to the inevitable federal inquiries that must accompany the expenditure of federal money and to develop their capabilities for long range planning. This is done, not by asking the states questions that we know they can't answer, but by providing assistance so that they can strengthen their own evaluation efforts. Then they will not only be better able to answer questions posed by the federal establishment but they will also be better able to answer questions they ask of themselves.

To summarize, the questions that we have been asking ourselves in our federal programs are:

1. How can federal resources be used to strengthen the systems components of our educational programs?
2. How can federal programs best strengthen local and state efforts on the handicapped?
3. How can federal efforts increase communication links between regular and special education?
4. How can we best concentrate a federal effort on major issues and needs such as early childhood education, multiply handicapped, program evaluation, etc?

Above all, we who work in Washington wish to affirm or reaffirm our kinship with you. Without your active support and understanding no efforts in Washington will be very useful. We are only an extension of the effort that has its focus and its reason for being in the fruitful interaction of a handicapped child and his teacher.

REEDUCATING THE EDUCATION PROFESSIONS

by

Don Davies

The timing of this talk could not be better. Today I can announce for the first time that the Office of Education has sent to the Congress official notification that it has approved for funding 48 projects to help train and retrain teachers and other educational personnel who work with handicapped children in regular classrooms. The grants--all under the Education Professions Development Act--are for projects in 27 states and the District of Columbia. Though the exact dollar amounts for each project are subject to negotiation, the fact remains that these grants represent the largest amount of money for this purpose ever awarded at one time--$7 million.

The awards are an indication of the high priority the Bureau of Educational Personnel Development (BEPD) is attaching to the preparation of personnel who work with the handicapped, and I consider this new effort a significant step forward. Of course the projects I am talking about today are in addition to a very substantial number of special education projects announced last winter.

All of the 48 new projects have to do specifically with two major responsibilities to the field of special education. The first responsibility is to provide training opportunities to regular classroom teachers, counselors, and administrators--to equip them with the knowledge, understanding, skills, and sensitivity to work more effectively with handicapped children. Sixty percent or so of youngsters who are defined as handicapped are in regular classrooms in regular schools under the jurisdiction of regular teachers, counselors, and administrators. The second responsibility is to recruit and train teacher aides to work with handicapped children in regular or special classrooms.

These two missions were developed after considerable discussion with officials of the Bureau of Education for the Handicapped (BEH) in the Office of Education and after an assessment of its legislation and ours. The two responsibilities are embodied in a formal agreement between BEH and BEPD. Both make a good deal of sense because our missions cannot be properly accomplished without better preparation of regular educational personnel and the preparation and training of teacher aides. Both are essential to the improvement of service for youngsters who are handicapped.

In order to administer this new program we have established in the BEPD structure a Special Education Training Branch. This branch has the responsibility of administering the legislation and of working with the rest of our Bureau to assure that we make as great an impact as possible in the field of special education. We've also benefited greatly in the administration of this legislation by a very cordial and close working relationship with James Gallagher and the Bureau of Education for the Handicapped. This close relationship between the two bureaus is essential, of course, to supporting our mutual objectives.

To illustrate the kind of program we are encouraging, I'd like to tell you about four of the 48 projects we have just approved. The first is at Arizona State University at Tempe where 50 Indian Teacher aides are going to be recruited and trained. The project will provide an intensive 9 week preservice training program for the aides which will emphasize the teaching of English as a second language to Indian youngsters and the development of language skills for the aides themselves. Then the aides will be placed in cooperative school districts for internships where they will have experiences both in regular and special classrooms. The result should be improved service to handicapped Indian youngsters in both public and Bureau of Indian Affairs (BIA) schools. It should also mean exciting new career opportunities for young Indians interested in education and badly needed help for teachers and children in public and BIA schools.

A second illustration is a project developed by a consortium of local districts in West Texas. The goal is to train approximately 200 regular classroom teachers over the next 3 years with some emphasis in developing an awareness of the use of new specialized educational materials that will be helpful particularly in the development of handicapped children. The project includes sheltered workshops, institutes, and a continuing followup program of support of inservice activities in the host school districts.

A third illustration in this exciting new program involves a consortium including the University of North Carolina, the University of Arizona, and the National Training Laboratories in Washington, D. C. This provides for teams from school districts--regular teachers, special education teachers, parents as aides, college students preparing to go into special education, administrators, counselors, specialists, and community representatives. The teams will initially work in a summer camp setting with exceptional children. The summer experience will be followed by intensive support and followup activities in the home school district. Among the purposes of this project are: improving the diagnostic skills of the team participants; increasing the awareness of self and the impact of the behavior of the teacher on youngsters; enhancing skills, recognizing need for special help and using that special help; and expanding teamwork between regular teachers and the special education staff in a school district. Considerable emphasis will be placed on all team members to work as agents of change when they return to their home school districts.

The fourth project is taking place at the University of Connecticut where there is a cooperative training program involving the Departments of Educational Psychology, Special Education, Elementary Education, and Educational Administration. It focuses on training educational staff to work with economically disadvantaged handicapped children. This project includes (a) the training of classroom teachers to be supervisors of student teachers and other inservice teachers, (b) the training and sensitizing of school administrators, and (c) the training of teacher educators who, in turn, can help the hundreds and thousands of young people preparing to be teachers to become more sensitive to problems of working with handicapped children.

These projects are just a few that we are funding under what is a very promising program in special education authorized and financed under the Education Professions Development Act. A number of other programs under other parts of the legislation also have important special education components. For instance, there is the state grants program in which funds go to state departments of education to help meet critical shortages of teachers and teacher aides. The states, in turn, disperse the money to local education agencies to help them bring into the schools persons from the community--former teachers, persons in professions other than teaching who can work full or parttime, and individuals with up-to-date vocational skills, who with adequate training, could make a substantial contribution in the classroom. There is the Teacher Corps, an internship program designed to bring talented college students into the schools in rural and city low income areas.

Then there is our Career Opportunities Program scheduled to get underway in fiscal year 1970-71. This program is designed to attract and train persons from low income communities to work in the schools. They will be given an opportunity to start as aides or technicians and, through a work study program, climb a career ladder into teaching, counseling, or any of the other education professions. Under the Career Opportunities Program, we will be making an effort to attract Vietnam veterans into schools serving low income areas.

Another program with implications for special education is a continuation of our commitment in the basic studies. This program provides inservice training for teachers of all subjects and at all levels in those basic areas which constitute the bulk of the curriculum in the American elementary and secondary schools.

Next, we are making a special effort to increase the quality of teacher preparation by getting at the teacher trainers--the people in school districts who are responsible for training teachers and the people in universities in education departments and academic departments who train teachers.

We are also mounting a brand new program in vocational and technical education to provide both preservice and inservice training for leadership and classroom personnel in those fields. Similarly, we have a new program in early childhood education to provide training for classroom personnel, teacher trainers, and administrators who will work with young children--preschool through the first two or three years of the elementary school.

Very clear and obvious relationships to special education can be seen in our program for training support personnel. By support personnel we mean educational media specialists as well as pupil personnel specialists--counselors, guidance people, school social workers, psychologists, and others who serve in pupil personnel capacities.

Then, of course, we have a highly significant program for school administrators which recognizes that the school administrator is in a key position to either block or facilitate educational improvement in the school.

Finally, we have a new and potentially significant program related to many special education interests. This is called More Effective School Personnel Utilization program. We will provide funds to local school districts moving from the self contained mode of organizing the school to a more flexible and differentiated way of utilizing the staff.

Now, the big question is: what will all of these things add up to--just more of the same in teacher training? If that's the case, it will be a national tragedy. What's needed, and needed badly, is profound change in the ways in which we recruit, train, and utilize educational personnel of all kinds in our school districts. Those changes are needed because of the current inadequacies of American education in meeting the needs and problems of this society.

I'd like to move beyond our own well developed sense of outrage about these inadequacies and suggest three possible directions in which American education is beginning to move and to which EPDA programs and other efforts to improve the recruitment and training of teachers can make a very substantial contribution.

A short while ago, James Reston wrote an interesting article about the agonizing conflicts in our society today. He also pointed out that along with these serious conflicts and difficulties there are some reassuring larger tendencies in our national life. As I thought about where we are in education, I tried to identify what might be the reassuring larger tendencies on which we can build in education. I can summarize these very quickly and superficially with just three infinitives: to equalize, to individualize, and to humanize.

In the last decade we've made some progress toward equalizing educational opportunity. The data are not very hard or specific, but I think most of us can see and feel some of the positive results of programs aimed at this purpose--Title I of the Elementary and Secondary Education Act, the Teacher Corps, Head Start, and so on. Probably even more important, there is now (and there wasn't a decade ago) strong bipartisan political and professional support in the field for continuing large scale federal contributions to the educational problems of children from low income families. Across the country there does seem to be some movement and some concern. But obviously only a beginning has been made because race and family income are still the most reliable predictors of both the quality and quantity of the education that a young person is going to receive in our society. Most poverty area schools are still inadequate in facilities, building, teachers, and curriculum. They're inadequate for handicapped children just as they're inadequate for all children, but I would still submit that the reassuring larger tendency is there. The job that remains to be done is to change the motivations, attitudes, and skills of those who serve the schools and of those who control the schools. In order to equalize educational opportunities we need to change those attitudes, motivations, and skills and that is a training problem.

The second large reassuring tendency is the move toward individualizing instruction. The importance of recognizing individual differences and individualizing education is a favorite part of our educational mythology and rhetoric. It's on page one of every textbook about education. It's on the second page of every lecturer's and every education professor's notes in the United States. Yet we all know that the rhetoric and mythology is seldom translated into the real behavior of teachers and children in schools. Large student groups, the teacher doing the talking, standardized examinations, and standardized requirements are still predominant despite the mythology. There are some encouraging signs, however, to support my contention of the reassuring larger tendency. The developments in educational technology are the most obvious. Technology is beginning to make it possible to individualize instruction--to do what we've been lecturing about for hundreds of years. And, of course, with recent technology we're beginning to make some progress in more flexible and differentiated ways of using a variety of personnel in the schools.

A beginning and only a beginning has been made. Walk into most schools in the United States at any grade level at any time during the day. Mass instruction, teachers talking, and children listening and taking notes will be what you will see. Our concept of education, despite all of our protestations, is still a room with 25 ro 40 kids and a teacher up in front doing most of the talking. The concept of the self contained teacher, the self contained classroom, is deeply imbedded in our nervous system. Also imbedded in our nervous system is the very strange notion that it is possible to recruit and retain two million or more omnivirtuous, omni-capable elementary and secondary school teachers. It's clear to me that the job that needs to be done to support this reassuring larger tendency toward individualizing is largely a job of changing the motivations, attitudes, skills, and roles of the people who serve education. This, too, is clearly a training problem.

Now the third large reassuring tendency is the movement toward humanizing education. In many ways this is the least developed, the least understood, the most controversial, and the most difficult tendency to explain because it means different things to different people. What it means to me was expressed very well by a Princeton sociologist, Melvin Tumin, when he wrote some time ago that the most blatant failure of our schools is the failure to be concerned with goals of education beyond those of limited cognitive skills. Other goals can be named, Tumin says. They include the acquisition of a satisfied self image, a capacity to live with differences, a vital interest in participation as a citizen, sound emotional development, and the continuing refinement of tastes and sensibilities.

Another aspect of humanizing education is expressed by Richard Farson of the Western Institute for Behavioral Sciences of LaJolla. Farson wrote that we still appear to believe in American education that students must be driven to learn by discipline, punishment, competition, and reward. We have so long used punitive methods in our teaching, viewing pain and suffering as an avenue to learning, that it may now be impossible for us to accept the idea that learning can be enjoyable, that it should not entail frustration or boredom, punishment or failure, dread, shame, or panic. And of course most of you have seen George Leonard's provocative book, Education and Ecstacy, which is devoted entirely to the need for humanizing education. Leonard is concerned with the tendency of teachers and others in the schools to make education dull, lifeless, routinized, and without joy. He is concerned, as we are, that schools tend to repress the creative powers of young people rather than to encourage them.

In very simple terms, humanizing education means to me treating children, treating students, as human beings. It means treating children as subjects rather than objects, treating them as people with strengths and weaknesses, personalities and differences, and potential--people with faces and with identity. Humanizing education means turning around the attitude of schools and the people who run them so that they see their job, not primarily as one of grading and sorting and weeding out, but as one of developing human potential. I would suggest that the expectation of failure which accompanies a great many disadvantaged and handicapped youngsters from the first moment they cross the threshold of the school is the greatest block to humanizing education in this country.

There are obvious signs that would support the existence of a larger tendency toward humanizing education. The most important of these, I suppose, has been the impact of the rebellion of college students on college curriculum and the mushrooming of current interest in sensitivity training, simulation, and other related activities.

But we've made only a beginning. The task of humanizing education is primarily a task of changing motiviations, attitudes, and skills and the knowledge of the people who serve education, and this again is a training problem.

My point must be obvious by now. Training--meaning changing the attitudes, motivations, skills, and understanding of the people who are responsible for the educational process--is the key to educational improvement. Just saying that is not enough because more of the same kind of training that we've been used to in the past will not do the job. What is needed is a substnatial and profound reform in teacher education in the United States and it is clear to me what the major shape of this reform must be. We obviously need a much closer relationship between schools and colleges in planning and carrying out both preservice and inservice training programs. We know that. Why don't we have it? In planning and carrying out training programs we need a closer relationship between education departments and the other departments in the universities, and between departments of special education and the rest of the college of education. We know that. Why don't we have it?

We need training programs that are more tightly focused on the clinical study of teaching and learning. We know that, and I wonder why we are so slow in changing our teacher education approach to conform to what we know. We need training programs which provide earlier and much more extensive clinical and practical experience for teachers, administrators, and all other personnel. We know that. We've been saying it for years. Why aren't we doing more about it? We need training programs that themselves are individualized, training programs that practice what they preach about the nature and quality of education. We all know that, and yet, look at the teacher training programs offered by schools and colleges across the country. They are built largely on standard requirements that assume people are very much the same when they start and finish the program.

We need training programs that demonstrate the effective utilization of technology. It's time to stop delivering lectures about using technology and start building into the training programs--both inservice and preservice--the effective utilization of technology so people will feel it and understand it and know it. We need training programs that prepare educational personnel to work as a part of an instructional team in a school rather than to work in isolation in a self contained classroom. We need teachers and other personnel who can work with specialists, with other teachers, with aides, and, perhaps most important, we need training programs that will provide educational personnel of all kinds with the ability and skill to work with parents and other people in the community. We know that and we've been talking about it for years. These are all examples of the kinds of specific reforms that are needed in teacher education. Why are we so slow in implementing them?

We need training programs and we need certification programs at the state levels that are based on performance and ability rather than on hours spent in classes and credits accumulated. We all object strongly to the rigidities of the credential giving society in which ability to survive a certain number of hours in a school or college is evidence of qualifications as contrasted to a performance based system which says it's what you can do that counts. We need training programs that equip the teacher with positive attitudes and skills to work with children who are different, children who are black, white, brown, red, or yellow, and are physically, emotionally, or mentally handicapped. And a final reform that's obviously needed in teacher education has to do with establishing new avenues of communication and understanding between "special education" and "general education."

You in special education have a lot to teach the rest of us who are not specialists in your field, but you also have a lot to gain by moving closer to the mainstream of American education than you are today. I would urge you to resist more strongly the allure of isolation. I would urge you to participate in your organizations with your colleagues, both in special and general education, in the reformation of teacher education along the lines that I've just suggested.

I'm going to close with one final comment. What I've been talking about is the need for change in education, and this means change in people, and people means you and it means me, not just that other guy out there. What we're after in the Education Professions Development Act and what I assume you're after in all of your efforts is to change the institutions to which we are devoted.

John Gardner, the former Secretary of Health, Education, and Welfare, is a man who writes with great insight about this problem of changing institutions. In a speech he gave last summer, Mr. Gardner pictured the responses of an imaginary group of 23rd century scholars who were looking back at the 20th century and its institutions. These 23rd century scholars said that 20th century institutions were caught in a savage crossfire between uncritical lovers and unloving critics. On the one side were those who loved their institutions and tended to smother them in an embrace of death, loving their rigidities more than their promise, shielding them from life giving criticism. On the other hand there arose a breed of critics without love, skilled in demolition but untutored in the arts by which human institutions are nurtured and strengthened and made to flourish. Between the two, the institutions perished.

As educators in the last half of the 20th century, we have an obligation to keep that kind of prophecy from coming true.

QUALITATIVE ASPECTS OF CHILDREN'S COUNTING

by

Hans Tangerud

A test is being developed to test different aspects or qualities of counting behavior. It is an individual test. The administration takes 30 to 40 minutes. The test is somewhat unusual in that it is intended to be used by well educated special class teachers (2 extra years or more, with testing included), not so much by psychologists.

The items of the test can be grouped from a logical point of view under five headings:

1. Manipulation items (3 items)
2. Purpose items (5 items)
3. Stimulus items (5 items)
4. Number system items (2 items)
5. Verbal estimate items (2 items)

Total number of items: 20

The number of items per group varies. The reason is they have not been drawn by chance from a population of items defined by the heading of each group of items. Each item has been drawn in order to represent a subpopulation of items. This means that each item is intended to measure just one specific aspect or quality of counting behavior. The number of items in the group, then, reflects our logical analysis and evaluation of what are the distinct and important qualities of counting behavior within each group or dimension.

The fact that the test has just one item to measure each specific aspect of counting behavior leads inevitably to a very low reliability score for each specific aspect or quality. This is a general problem with diagnostic tests since the time available for giving or taking tests is always limited.

Manipulation Items

The first manipulation item introduced is called counting by pointing (see Figure 1). The experimenter places two different strips of cloth with buttons on them, one at a time, before the child. The instruction is as follows: "Count these with your finger." If the subject hesitates the experimenter points to the extreme left button facing the subject. If the subject does not count aloud the experimenter says, "Start once again. Count loudly."

The purpose of this item is to test whether the subject has the technique for counting objects arranged in a row.

There are two sets of scoring criteria corresponding to X score and Y score respectively. In order to obtain X score the subject's response must be correct in every respect. That means, the child must be able to demonstrate the specific counting technique or strategy wanted while at the same time using the number system correctly. Y score is obtained by demonstrating the particular counting technique while showing some uncertainty regarding the use of the number system for this kind of counting.

To obtain X score on counting by pointing the following 4 criteria must be fulfilled:

1. The subject starts at either end and continues to the other end without omitting any button.
2. The subject points only once at each button.
3. Every time the subject points he must say one and only one number.
4. On the last button the subject must arrive at the correct number.

Y score criteria are identical to X score criteria regarding the first three points. The last point, however, is different and is as follows:

> Small errors regarding the use of numerals are accepted provided the last button is a number between 5 and 7 (item A) or between 12 and 16 (item B) inclusive.

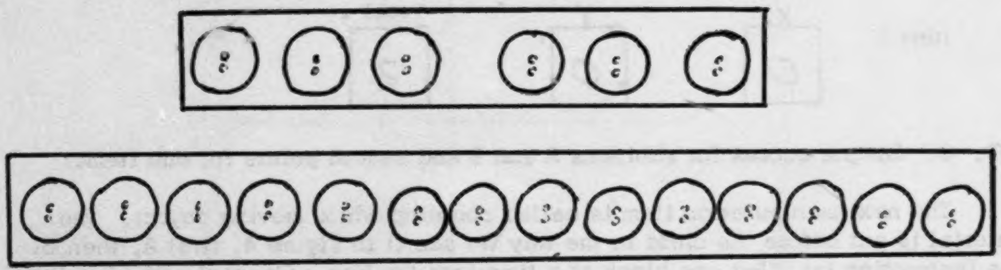


FIG. 1. Materials for counting by pointing.

The correct numbers are 6 and 14 respectively. X score is said to overrule Y score because a response that satisfies X score criteria automatically satisfies Y score criteria. The child demonstrating an altogether correct response, then, gets one point for X score, one point for Y score, and a sum of two points on the particular subitem. A subject showing some uncertainly regarding the use of numerals when counting by pointing may get one point for Y score, or he may even miss that one. Possible scores, then, are 2, 1, and 0. The different sums of points indicate qualitiative differences of counting behavior (see Figure 2).

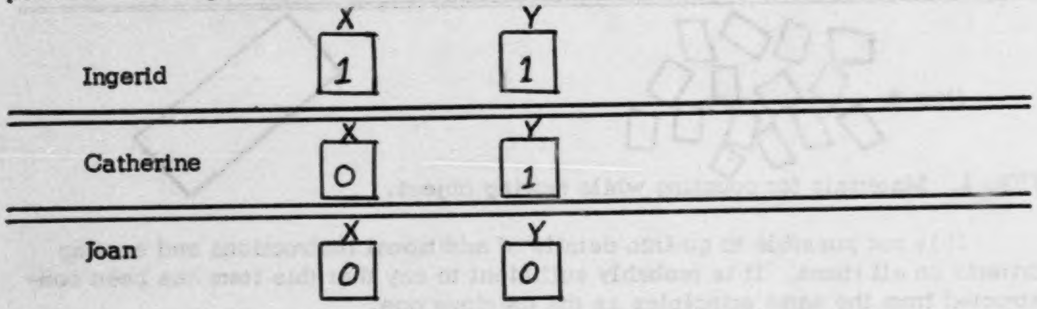


FIG. 2. Sample scores for counting by pointing.

Figure 3 shows the notation system for one item with both subitems. We can see from the notation that Jerry does not perform well with a high number of objects to be counted even though he is able to manipulate the material and to count adequately with a small number of objects. The difference between James' and Jerry's scores indicates qualitative differences between them regarding counting behavior. Several other combinations of scores at one single item are possible. It is, for example, quite common to have X plus Y score on item A and only Y score on item B.

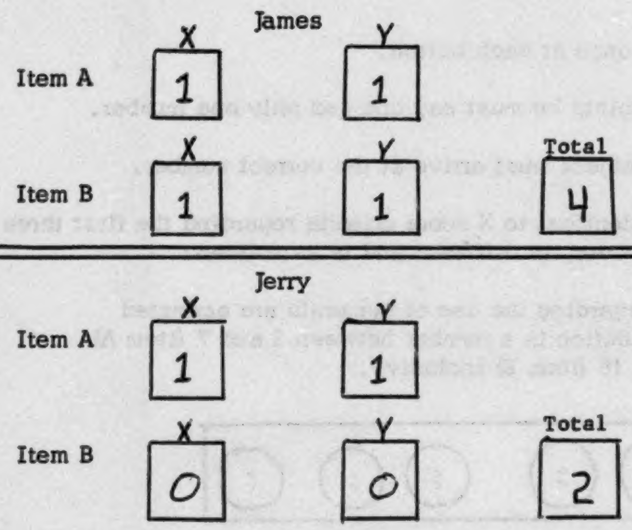


FIG. 3. Sample scores for subitems A and B and sum of points for one item.

The next manipulation item is called counting while moving object. The material is put before the child in the way we see it in Figure 4, first A, then B. The instruction is: "Put one block at a time into the box. Count the blocks while you are doing it." The purpose is to test whether the subject has the technique for counting objects placed in an unordered group by removing one object at a time from the group.

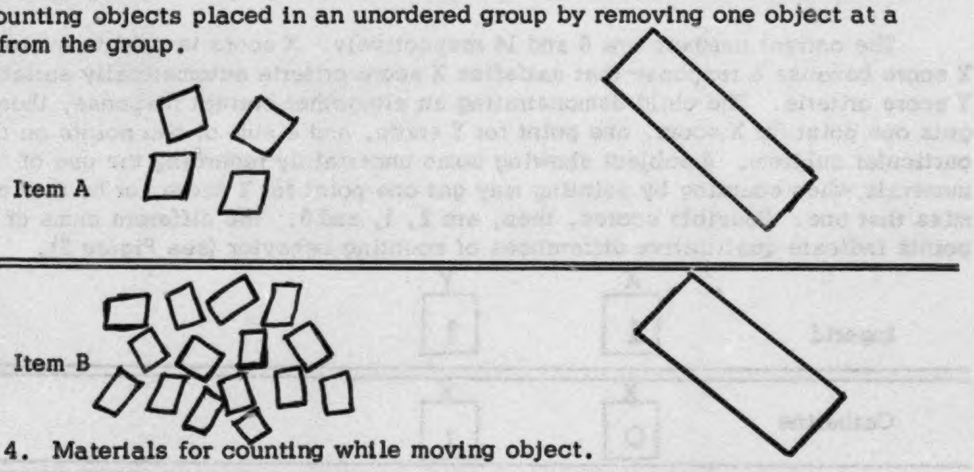
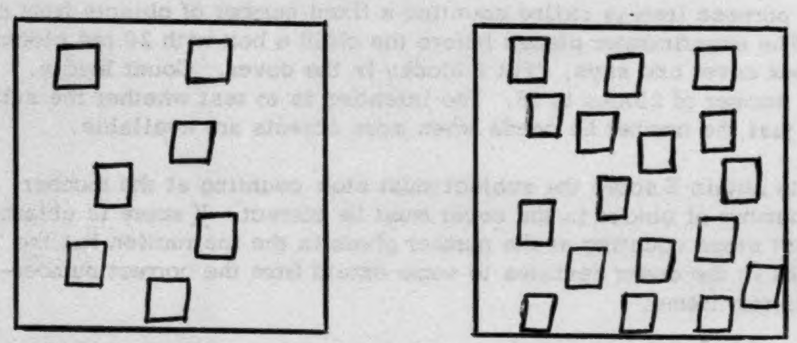


FIG. 4. Materials for counting while moving object.

It is not possible to go into details of additional instructions and scoring criteria on all items. It is probably sufficient to say that this item has been constructed from the same principles as the previous one.

The last manipulation item (Figure 5) is called counting of immovable unordered objects. The material consists of two cardboard sheets with small squared ceramic tiles. The sheets are placed before the child one at a time with the instruction, "Count these with your fingers." The purpose is to test whether the subject has the technique for counting immovable unordered objects (as the subject counts he must simultaneously consider those objects already counted and those remaining to be counted). The subject may count with or without covering. but in order to perform correctly he must realize that every object should be counted once and only once and no object can be omitted.


Item A

Item B

FIG. 5. Materials for counting immovable unordered objects.

It is not possible from the available data to judge whether the three manipulation items really test something different. This is partly due to the fact that these items are easy ones for the sample that we have tested so far, i.e., there is relatively little dispersion of scores.

Figure 6 shows the sum of raw scores on manipulation items in a sample of 110 normal subjects with a mean chronological age or nearly 7 years. The subjects had no school experience. It can be seen that most of the children had maximum or close to maximum scores. From a special education point of view it is quite important to notice that there were at this age a number of children who had very low scores. The mean manipulation score was 10.6 of a possible score of 12 and the mean score per item was 3.5 of a possible score of 4.

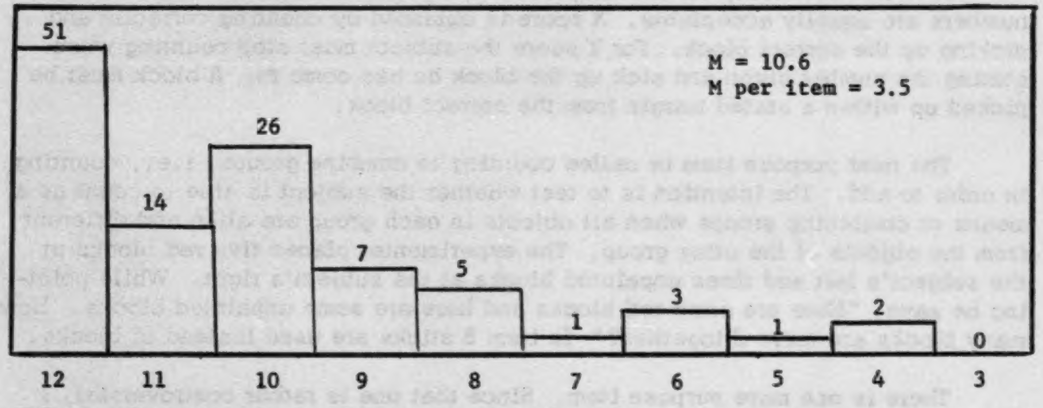


FIG. 6. Distribution of total scores of manipulation items.

It is not the counting technique as such that makes for the difficulty since 95 percent of the children got maximum score on item A. It is rather that the technique is difficult with increasing number of objects to be counted. Only 50 percent got maximum score on item B. This may indicate that increasing number does not make for the same increase of difficulty on all counting tasks.

Purpose Items

We have dealt with the manipulations involved in counting behavior. Another dimension of that behavior consists of the different purposes that counting may be used for.

The first purpose item is called counting a fixed number of objects from a larger group. The experimenter places before the child a box with 20 red blocks and an empty box cover and says, "Put 4 blocks in the cover. Count loudly." For item 13 the number of blocks is 18. The intention is to test whether the subject can count just the number he needs when more objects are available.

In order to obtain X score the subject must stop counting at the number given and the number of blocks in the cover must be correct. Y score is obtained when the subject stops counting at the number given in the instruction but the number of blocks in the cover deviates to some extent from the correct number--just as in the former items.

The next item is called summing up after counting. This is probably what people usually think counting is being used for. The experimenter places blocks in a row before the child and says, "How many are there?" If the subject finishes counting without stating the number of blocks the experimenter says, "How many are there?"

X score is obtained by any statement clearly indicating a knowledge of the correct number of objects. Y score is obtained by any statement clearly indicating a knowledge that the total number of objects is represented by the last number stated, provided that the number stated is within certain fixed limits.

Another purpose that counting can be used for is locating a particular object in a series. The experimenter again places blocks in a row before the child. He points to the extreme left block facing the subject while saying, "This is the first block. Give me the third. Count loudly."

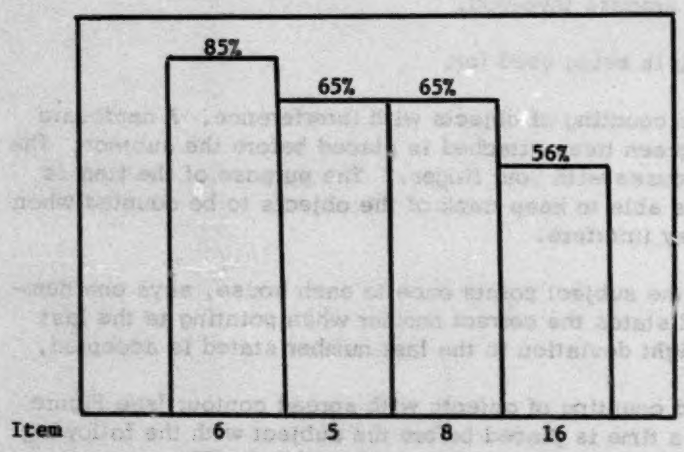
It is not necessary for the subject to count with ordinal numbers; cardinal numbers are equally acceptable. X score is obtained by counting correctly and picking up the correct block. For Y score the subject must stop counting when stating the number given and pick up the block he has come to. A block must be picked up within a stated margin from the correct block.

The next purpose item is called counting to combine groups, i.e., counting in order to add. The intention is to test whether the subject is able to count as a means of combining groups when all objects in each group are alike and different from the objects of the other group. The experimenter places five red blocks at the subject's left and three unpainted blocks at the subject's right. While pointing he says, "Here are some red blocks and here are some unpainted blocks. How many blocks are there altogether?" In item B sticks are used instead of blocks.

There is one more purpose item. Since that one is rather controversial, I shall leave it out for a little while.

The distribution of sums of raw scores for the previously mentioned group of subjects on four purpose items was 52 out of 110 subjects having maximum scores or one point less than maximum scores. The distribution was not very different from that of manipulation items. The sum score per child was 13.6 and the mean score per child per item was 3.3 as compared to 3.5 for manipulation items.

On Figure 7 we can see the percentage of children getting maximum score on each one of the four purpose items. Starting from the left side the columns represent item 6 (summing up after counting), item 5 (counting a fixed number of objects from a larger group), item 8 (locating a particular object in a series), and item 16 (counting to combine groups).



6. Summing up after counting
5. Counting a fixed number of objects from a larger group
8. Locating a particular object in a series
16. Counting to combine groups

FIG. 7. Number of subjects with maximum score on 4 different purpose items.

Since some people are always more interested in what is controversial, I shall mention the controversial purpose item, which is called counting for measuring. A cardboard sheet and a box with 20 red blocks are placed before the child. The experimenter says while pointing, "Here is a blue tower and here are many blocks. How many blocks high is the tower?" The intention is to test whether the subject has the ability to combine several identical units for the purpose of measuring.

X score requires that the subject places blocks on top of or beside the tower to the tower's full length and that he states the correct number of blocks. For this item it has been chosen to give Y score to subjects who arrive at the correct number without using blocks, that is, to subjects who use inadequate methods of measuring.

The distribution of scores on this item are lower than they were for the previous purpose items. We might therefore look upon the item as a difficult one. It is, however, controversial since there is a very low correlation between score on this item and the total sum of scores. We are working to have this item revised.

Stimulus Items

We shall deal rather briefly with stimulus items. It is, of course, true that any test item can be conceived of as a stimulus item since stimuli are always involved in instruction and test material. However, in this connection we may look upon stimulus items as a group of items that are different from other groups, such as for instance manipulation items and purpose items. When we speak of stimulus items, then , we are thinking of items that have been constructed to test the subject's ability to count objects of different kinds. This implies that the following factors should not be allowed to vary:

1. Number of objects to be counted.

2. The kind of manipulation process involved.

3. The purpose that counting is being used for.

The first item is called counting of objects with interference. A cardboard sheet with blue houses and green trees attached is placed before the subject. The instruction is: "Count the houses with your finger." The purpose of the item is to test whether the subject is able to keep track of the objects to be counted when stimuli from other objects may interfere.

X score is obtained if the subject points once to each house, says one number each time he points, and states the correct number when pointing to the last house. For Y score some slight deviation in the last number stated is accepted.

The next item is called counting of objects with spread contour (see Figure 8). One cardboard sheet at a time is placed before the subject with the following instruction: "Here are some clowns. How many are there?" or "Here are some birds. How many are there?" This item is intended to test whether the subject perceives the units so that he is able to count them when the objects to be counted have a spread contour. X score is obtained by stating the correct number as a clear indication of a summing up response. For Y score some deviation as to numerals is accepted.

The instruction for the item counting of partly concealed objects (see Figure 9) is, "Here are some colored circles (or squares). How many are there?" The purpose is to test whether the subject perceives units clearly enough to count them when they are partially concealing each other. Scoring is as with the former item.

The next item is called counting of objects with strong inner details. The purpose is to test whether the subject perceives the units clearly enough to count them when the objects to be counted have details with a high stimulus value that may distract him. The items to be counted are vases with big flowers and black houses with lighted windows. Instruction and scoring is as in the last item dealt with.

The last item of this group is called counting of objects with thin and vague contour. The purpose is to test whether the subject perceives units clearly enough to count them when the objects to be counted have thin, vague contours. The objects to be counted in items A and B are clouds and snow covered trees, respectively.

It might have been expected that the stimulus items as a group would be easier than manipulation and purpose items. As a matter of fact, these items were included because the test was intended to be used also with brain injured children who might be expected to have perceptual difficulties.

Figure 10 shows that stimulus items were just as difficult as manipulation and purpose items. Mean score per item per child was 3.4 as compared with 3.5 for manipulation and 3.3 for purpose items. Stimulus items seem to be of medium difficulty also as judged by the number of subjects having maximum or close to maximum scores on this group of items and as judged by the number obtaining max-

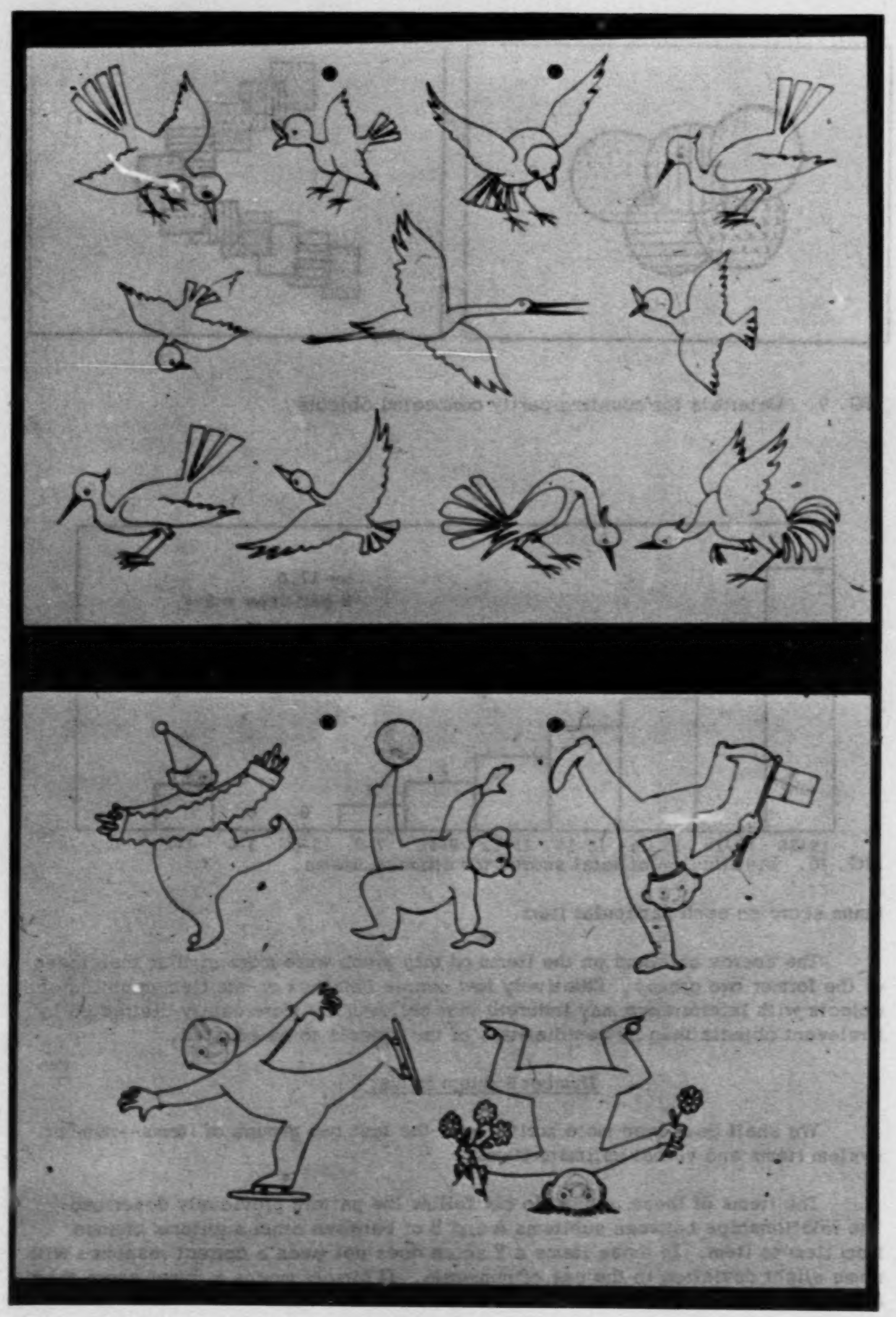


FIG. 8. Materials for counting objects with spread contour.

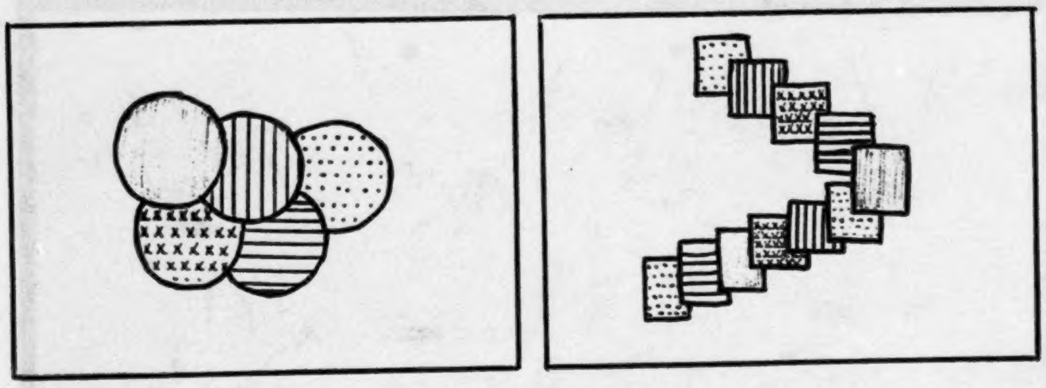


FIG. 9. Materials for counting partly concealed objects.

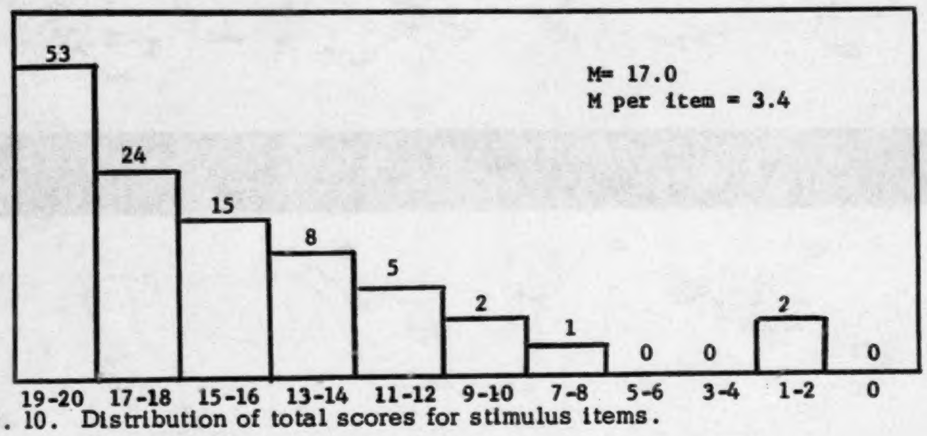


FIG. 10. Distribution of total scores for stimulus items.

imum score on each particular item.

The scores obtained on the items of this group were more similar than those of the former two groups. Relatively low scores obtained on the item counting of objects with interference may indicate that children are more easily distracted by irrelevant objects than by peculiarities of the objects to be counted.

Number System Items

We shall deal even more breifly with the last two groups of items--number system items and verbal estimate items.

The items of these grpups do not follow the pattern previously described The relationships between subitems A and B or between other subitems change from item to item. In these items a Y score does not mean a correct response with some slight deviation in the use of numerals. It simply means a lower score than an X score.

With the number system items the purpose is to test the subject's fluency in dealing with the number system as such. In order to avoid mixing up number system responses with something else, no concrete material is used except for one item where it could not easily be avoided.

There are five number system items testing the following:

1. How far the subject is able to count.
2. Whether the subject understands the fundamental logic of the expanding number system.
3. Whether the subject is able to count from higher to lower numbers.
4. Whether the subject is able to count by groups.
5. Whether the subject is able to count from an unusual starting point.

The distribution of scores cannot be directly compared with the distributions obtained with the former groups of items since the children are requested in two of the items to deal with numbers above 20. In the way the items have been established they seem to be as a group more difficult than the former groups of items. Mean score was 2.2 as compared with 3.3 to 3.5 with the former groups. The dispersion of scores was great. The easiest one among number system items was counting from an unusual starting point. The most difficult item was counting by groups, i.e., in fact, counting by twos.

In addition to the direct information that can be obtained by using the number system items, it is possible to study to what extent number fluency of some kind or other influences the scores obtained on the former groups of items. So far this has not been done.

Verbal Estimate Items

These items are not intended to test counting behavior as such. They are intended to test the subject's understanding of common verbal expressions about quantities. There is one item on verbal expressions about numbers of objects and another item on verbal expressions about sizes of objects, each item with three subitems.

It is probably possible to convey some information about the items by first showing a picture of a sample item (see Figure 11) and giving the instructions for the subitem. For item 12, subitem 1, the instructions are as follows: "Put the button on a big apple. Put the button on a small boy."

In addition to the direct information that may be obtained from these items, it is possible to study to what extent knowledge of verbal expressions about numbers and sizes of objects is correlated with different aspects of counting behavior. It might be possible to test whether verbal knowledge supports counting behavior or not. So far this has not been done.

I realize that I should perhaps not count upon you to read any longer such compulsive involvement with infantile intricacies. However, these intricacies belong to the kind of phenomena that special class teachers devote their lives to if given a reasonable pay and that special children get frustrated about without being paid. I had to take you through the test in order to establish a basis for some points of view that I want to touch upon.

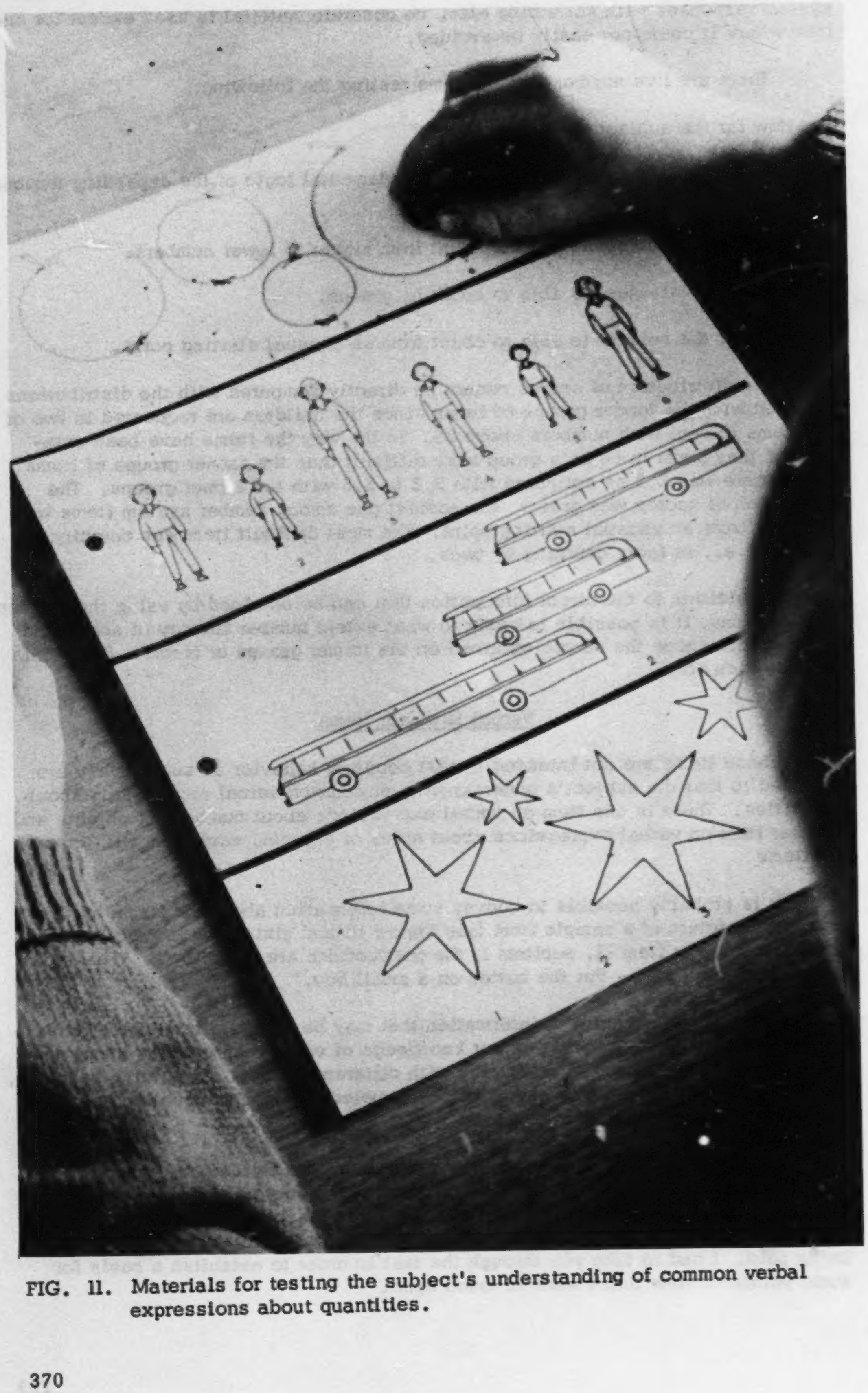


FIG. 11. Materials for testing the subject's understanding of common verbal expressions about quantities.

Using the Test for Diagnostic Purposes

The test may, of course, if it is fully standardized, be used for diagnostic purposes. It is evident from what has been said that analysis of scores may be done on different levels:

1. Total score

2. Group score

3. Pattern analysis

    Y minus X score

    A minus B items score

    Pattern analysis

4. Single item

The subject's total score as seen in relation to established norms gives some diagnostic information. As a matter of fact many psychologists, most of them school psychologists with several thousands of children to look after, do not go much beyond the level of total scores. This means that when reporting to the teacher the psychologist can only give one score or one statement representing an overall estimate of the subject's performance on a certain test.

Overall estimates may satisfy the psychologist when he is considering referral to a special class, school, or institution. They are, most often, of little use to the teacher since it is very difficult for anybody to deduce from a general score ways of teaching one particular child.

I shall only mention a couple of the reasons for this tendency to concentrate on overall estimates,

1. Many tests have not been constructed according to a clear pattern or model, and often no subtest scores can be derived.

2. The items of a test are often meaningless in relation to teaching because the tasks involved are those that nobody needs to master.

This is probably so because of the aspirations of test constructors to measure factors of the personality that show stability over time, in order to establish a basis for predictions. Such factors, then, are usually conceived of as determining the person's behavior in all kinds of situations.

Factors of this kind have to be very general. It has been shown that the construction of tests with subtests measuring specific factors is a difficult task. A very high number of items supposed to measure the same factor is required to rule out the possible interference of the subjects' different histories of past experiences. This is also aimed at through the selection of "unrealistic," or, if you like, "culture free" tasks.

These general factors, whatever we call them--trait, intelligence, or something else--are very abstract and difficult to conceive of and, therefore, it is also difficult to deduce from a general score to particulars of behavior in relation to the vast array of tasks that children meet in learning situations.

To compensate for the loss of contact with school tasks, achievement tests have been constructed. It has been stated that achievement tests should not measure intelligence to any significant degree. This may be obtained by introducing items that require only superficial memories of what has been taught during the last few months.

I look upon the counting test as a more "realistic" test than the usual tests of intelligence and achievement, since it allows for intelligence and experience to work together as they do in life. This means also that the kind of achievement measured in the counting test is the kind of achievement we want to develop in children, if possible--achievement based on insight.

Since the items included in the test probably measure understanding to some degree, one should expect a rather high positive correlation between total counting score and intelligence. With the previously mentioned sample (69 subjects) a correlation of .64 was found. On the other hand, one should expect a much lower correlation between scores on single items and IQ because of lower reliability of item scores, and also, probably, because of the children's different experiences with the aspect of counting being tested by the particular item.

On the remaining three levels of analysis we are comparing sets of scores in order to obtain diagnostic information. On the second level scores or subtests or, as we have called it, "groups of items," are being compared.

So far no factor analysis has been made. When that is done we may happen to find clusters that do not at all correspond to the established groups of items. In that case we shall have to categorize the items of the test according to the results of the factor analysis. This does not necessarily imply that the logically and educationally meaningful classification should be abandoned.

When subjects with near to maximum scores are excluded, variations between obtained scores on different groups of items seem to be quite common. If for some subject significant differences between obtained socres on different groups of items can be found, learning programs for subjects with different profiles will be prepared. And this is easy because the items of the test are very much like school tasks. The following questions can be put:

1. To what extent can low scores be increased by an intensive and specific learning program?

2. Are there differences between subtests in this respect?

3. Can low scores be increased through learning programs that deal with tasks similar to the subtests where the subject is doing well?

Also at the third level of analysis--pattern analysis--sets of scores obtained from a number of items are compared. Three kinds of analysis can be made. With the first three groups of items--manipulation, purpose, and stimulus--X score credit was obtained from a response that was fully correct in every respect. Y score was obtained if the subject showed the correct strategy or quality of counting but arrived in the end at a number deviating slightly from the correct one. This means that a surplus of Y scores is obtained if the subject is having difficulties not as much with manipulation, purpose, or stimuli as with the correct use of the number system in dealing with practical tasks of counting. If the sum score of number system items is at the same time low, this is probably the reason for a great discrepancy between Y and X scores. If the sum score on number system items is high, a surplus of Y scores, probably means that the subject is having application problems. Such problems may be either problems of understanding or problems of handling more complex tasks. Nothing about this last distinction can be seen from the scores.

It may also be of some interest to compare scores obtained on A items with those obtained on B items. With A items the subjects are supposed to count about 5 objects and, with B items, about 15 objects. With some items this principle has not been followed and, therefore, these items have to be excluded from this analysis.

A clear discrepancy between sum of A item scores and sum of B item scores indicates that the subject is having difficulty in counting when a higher number of number symbols have to be used and/or when there is a higher number of objects to be dealt with. The possibility of number symbol difficulty as such may be more or less ruled out if the subject has a high sum score on number system items.

The last possible analysis at this level is the one that deals directly with the score patterns of whole items (items A and B, scores X and Y). Figure 12 shows the nine score patterns that may be obtained for each one item. It is possible, then, to study how many times each pattern occurs in the scores of any single subject tested.

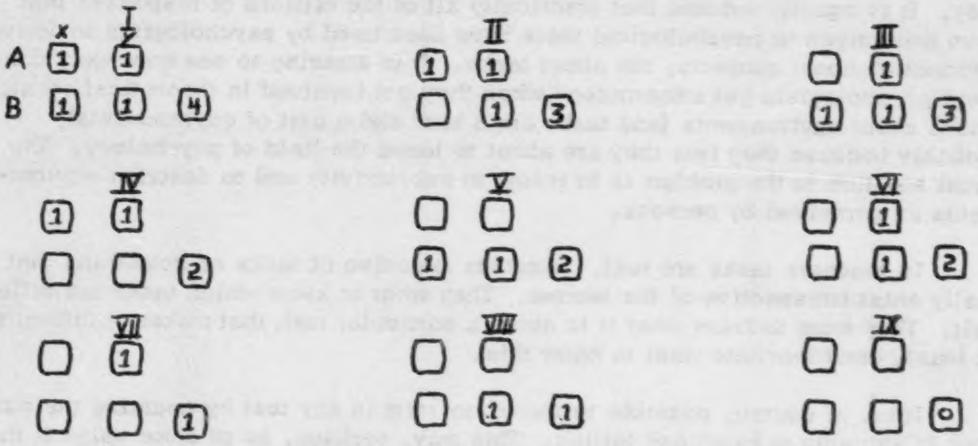


FIG. 12. Possible score patterns.

It is not yet possible to present results from this kind of analysis. But as far as can be seen by "eye sight" some subjects show a striking consistency of score patterns.

I have involved you in this line of reasoning because it has some implications for diagnostic testing of achievement. Traditionally, the so called diagnostic tests used to test for academic achievement have, as compared to the more common "achievement tests," been characterized by a higher number and a more careful selection of items. This means that items have been selected to represent critical points of learning and that all such points have to be represented in the test.

Usually the subject's performance on each item of a diagnostic test is scored in a "pass or fail" fashion. Failing, then, simply means that the subject has failed to pick up some critical point of learning. If a number of different items are missed this is looked upon as revealing the cause of the subject's low status within the particular field of academic learning.

There has been a tendency to overlook the fact that most test items are complex ones in the sense that the response required has several distinct components. Failing in one component of the response, then, usually means failing on the particular item. The counting test was constructed with A and B items and X and Y scores in order to get a little way behind "pass or fail" or a sum of points for each item. By using the pattern analysis it may be possible to some degree to differentiate among causes of failing. Because the pattern analysis can be done by using scores from many comparable items, the reliability problem of diagnostic tests, as in relation to a small number of items tapping one critical aspect of learning, may be partially solved.

Regarding the last level of analysis that deals with single items, there is little left to do but to point to the evident fact that only by studying the subject's responses to each single item can we get to know which tasks he can solve and which tasks he cannot solve.

Task Analysis

We are not quite through yet. Some words have to be said about task analysis. It is evident that any response to any test item is a function of subject and task. It is equally evident that practically all of the billions of responses that have been given to psychological tests have been used by psychologists to derive information about subjects, not about tasks. It is amazing to see how many prominent psychologists get embarrassed when they get involved in theoretical considerations about environments (and tasks are a kind and a part of environments), probably because they fear they are about to leave the field of psychology. The usual solution to the problem is to resort to subjectivity and to describe environments as perceived by persons.

To teachers tasks are real. Teachers conceive of tasks as something that really exist irrespective of the learner. They want to know which tasks are difficult. They want to know what it is about a particular task that makes it difficult. At least, good teachers want to know this.

It is, of course, possible to study any item in any test by counting the numbers of subjects passing and failing. This may, perhaps, be of some value if the task is quite uncomplicated, as for instance addition combinations. When we get to more complicated tasks, however, we have great difficulty in interpreting this kind of data. We do not know what aspects of the task are really determining the rate of subjects passing. The determining factor may be quite irrelevant to the task as conceived of by the test constructor. For this reason it is also very dangerous to generalize to tasks that are thought of as similar to the test item task. Another cause of interpretation difficulty is related to the fact that most often test items are dissimilar to such a degree that meaningful comparisons cannot be made. It is impossible to look upon the difference between numbers passing two items as caused by some slight difference between the two items.

With the counting test some efforts have been made to avoid problems of this kind. Task complexity has been reduced by splitting the seemingly simple task of counting into a great number of aspects. A number of meaningful comparisons may be made since some essential factors, as for instance number of objects and scoring criteria, have been fairly well controlled. Comparisons can be made between items and to some degree between groups of items.

Even though task complexity has been reduced, the responses required for the items of the counting test have to be somewhat complex, as for example manipulation strategy and the use of the number symbol series. In order to see if complexity means the same in different items it may be possible to use pattern analysis. The frequency of occurence of the different patterns obtained by the same group of subjects on different items may give interesting results.

It is also possible to study the relative difficulty of tasks in a child development fashion. We are preparing a developmental study in order to get information about when and in what succession different aspects of counting occur. If anything like an orderly succession in the acquisition of aspects of counting behavior can be found with normal children, we shall try to see if the same succession can be found in deaf and cerebral palsied children.

There is no time to touch upon the possible consequences of counting behavior for later understanding of mathematical processes. We are working on that problem. Neither is there time left to relate counting behavior to conceptual development.

There has been a good deal of pessimism during the last years regarding the possibility of developing better methods of teaching academic subjects to exceptional children. There is no basis for this pessimism. We have just begun. We have to plunge into these problems using a great many different approaches. If we can get a better understanding of each child, the tasks that he is facing, and the relation between the two, there is every reason to believe that we shall be able to develop more effective methods of teaching.

Hans Tangerud is Senior Lecturer, Institute for Educational Research, University of Oslo, Norway.

EDUCATIONAL RESEARCH IN THE UNITED STATES

by

James W. Moss

Research on the education of handicapped children in this country has a long history, beginning with Samuel G. Howe who started his experimental school for the mentally retarded in 1848. Toward the turn of the century there were a number of individual psychologists who explored the learning characteristics of mentally retarded children. In the 1930's Marie Skodak and Harold Skeels and their associates were looking into treatment effects and the possibility of ameliorating some of the conditions of mental retardation. Research for handicapped children has been plentiful over the years. The introduction of the Cooperative Research Act in 1956 with earmarked funds for studies of mental retardation was a major step forward for promoting research in this area.

In looking back over the years at the large amount of research relating to the handicapped, one could find reasons to be satisfied with the national effort. But in fact, if we look closely, something was not quite right. The earmarking of funds under the Cooperative Research Act was dropped after two years and the number of projects in mental retardation supported under the Act fell from 42 in 1957 to only 4 in 1961. Of even more concern, however, was the overwhelming predominance of research in mental retardation with almost no research relating to other categories of handicapped children. During the period 1957-1963, 82 research reports were published which eventually found their way into the ERIC Clearinghouse for Exceptional Children. Of these 82, all but 14 were concerned with the mentally retarded. There were 8 reports dealing with the hearing impaired, 2 each in the areas of speech and visual impairments, one concerned with brain injured children, and one with the emotionally disturbed. Of the 68 studies concerned with the mentally retarded, only a very few had any relation to education, with most of the studies of a descriptive and theoretical nature. So something really was wrong with our national effort to solve the educational problems of handicapped children.

In 1963 Public Law 88-164 was passed to provide research funds specifically for the purpose of improving the education of handicapped children. Thirty-two grants were made during June of 1964, initiating that program and making use of the one million dollars appropriated for that purpose. During the five year period from the beginning of the program in 1964 to the present time, the level of funding increased from one million dollars to over 13 million per year. The number of projects now supported numbers in the hundreds and the distribution of research efforts, although still showing a disproportionate amount in the area of mental retardation, shows a much better balance in all areas of the handicapped. There is in fact a great deal of research being conducted throughout the country today--much too much to be summarized in the time available tonight.

I can provide you with a few general insights into the developments that are taking place throughout the country. Some of the most exciting developments relate to the education of visually impaired children. This is an area that had been almost completely ignored for many years. The major focus of research in this area is obviously on communication, principally relating to the child's ability to receive information from his environment. This blind child receives information primarily from two channels--hearing and touch. Throughout the country there are many studies concerned with the ability of a blind child to take in information aurally and many efforts relating to "compressed speech," including a center for rate controlled recordings in Louisville, and many studies designed to improve the listening skills of the blind.

Even more exciting are the developments relating to learning through touch. There are two important developments which interact somewhat. Scientists at the Argonne National Laboratory, a facility of the Atomic Energy Commission, are developing a Braille reading device which appears to be suprerior to anything attempted in the past. It is worth noting, too, that for the first time in our history we have a large number of people from outside the area of special education involved in some of these programs. The particular braille reading device operates from impulses stored on magnetic tape. This equipment will be ready for testing in about a year. If it works as well as we expect it will, two things can occur. The first problem it will solve is the storage and availability problem so long associated with the use of braille. A three inch magnetic tape can hold as much as a large bookshelf. The tape can be duplicated with ease, mailed at minimum cost, and if necessary, even transmitted across telephone wires. Systems are being developed for transferring material into magnetic tape form. The second thing such a machine can do is to permit experimentation with braille itself. Braille has not changed very much since it was introduced and part of the reason for this is that the difficulty of putting material into braille has created a tremendous need for braille material. Where there was such a tremendous need there was little opportunity for researching experimental models and even less opportunity for implementing new models as they developed. Once braille is put onto magnetic tape, it can be extracted in any form.

It would even be possible to present two forms of braille simultaneously for research or instructional purposes and, in fact, new forms of braille are now under development and will be ready for testing at the time the machine is ready for testing. At the same time these advances are being made with reference to braille, we are seeing other approaches for learning through touch. Another investigator--again a person outside the field of special education, an electronic engineer at Stanford University--has developed a small device which permits a blind person to read from standard print by use of an optical scanning device which transposes visual patterns into patterns which can be felt with the fingers.

In the same area of the visually handicapped we also see research on the development of improved teaching aids, even an improved braille writer. We also have a redesigned slate and stylus which permits a blind person to write as he reads rather than in reverse. We are seeing research in curriculum development, teaching techniques, and have found that many visually impaired children can make far more use of their residual vision than ever thought possible before.

In short, a lot of interesting things are happening with reference to education of visually handicapped children compared to the very few studies reported between 1957 and 1963. The area is still one of our weakest, however, with less than 30 individual projects supported by our office over the last five years.

Research continues, of course, in other areas of the handicapped. A number of studies reported under the heading of crippled and other health impairments are reported. These generally fall into two major subgroups--those concerned with children with orthopedic disabilities and those concerned with neurological impairments which are not related to orthopedic conditions. Not a great deal has been done with reference to the orthopedically handicapped. Some attempts have been made to explore the use of teaching machines as motivating devices for severely physically handicapped children--as a matter of fact, they have proved to be very successful. Exploration in the use of home to school telephone has been made and some efforts are being made to examine teaching aids and equipment for these children. By far the greater research interest appears to lie in areas related to neurological disabilities and other learning disabilities.

Perceptual problems in children in relation to learning of academic subjects have come under serious investigation. More and more the data suggest that we may have placed an undue emphasis on the role of psychoperceptual problems as a deterrent to learning to read. Definitive information is not yet available but should be in hand within a year. By that time we may have put to rest much of the folklore associated with auditory and visual perceptual problems and some of the other problems long thought to be associated with reading disabilities. Evidence is also accumulating to suggest that the preferred mode of treatment for most of these children is the regular class and not the special class whenever possible. The use of specialist teacher working with these children with standard class materials appears desirable for most. One of our largest efforts, and perhaps one of our most fruitful, somehow fits into this broad category of physical conditions, although I am not sure why--an educational followup of the massive paranatal research study. In the original paranatal study, 14 medical centers across the country collaborated to study the lives of children from the identification of pregnancy to the age of eight. This is predominantly a medical study but included psychological, speech and hearing, and social data. We, or course, are interested in what can be learned about the antecedence of learning disabilities in school age children by following these children with an emphasis on educational data. In relating these data to the massive amounts of data obtained through the original study we will perhaps identify the sources of some of our problems. There were or will be approximately 50,000 children involved in the original study. We will have data on only a portion of this group.

With reference to the mentally retarded, we are placing a great deal of emphasis on the teaching-learning processes. We are finding out, for example, that some retarded children have never learned useful strategies for learning, and consequently, when asked to learn they do a very poor job. When taught more effective learning strategies, at least on some tasks, some learn as well and retain as well as nonretarded children.

We are exploring new approaches to diagnosis. Apparently retarded children, like the rest of us, differ in our approaches to life and learning. They come equipped with different personalities and talents, and by assessing these differences and developing differential learning approaches we can facilitate the learning of the retarded.

We are making an intense effort to organize the instructional approach to the mentally retarded. Our Chairman, Dr. Goldstein, has been working for the past several years to develop and test an entirely new social learning curriculum for the retarded. This curriculum is being tested by over 100 teachers in all parts of the country and shows great promise for providing a structure in which effective teaching and learning can be managed. We have also turned to the people who have developed a highly successful science curriculum and asked them to produce one for the retarded population. There is a wide range of other programs related to the mentally retarded today, including studies on programed instruction, computer aided instruction, analysis and perceptual problems and color blindness. You will be interested in knowing that a color blind person, according to one study, when asked to learn from black and white material, learned poorer than a noncolor blind person using the same materials--we are not sure why.

One unique study is an attempt to capture on film the most useful information from Europe and bring it back to teacher training institutions in this country. One other unique study is worth mentioning in this area, that of keeping teachers up to date with reference to new techniques and methods of instruction. The Special Education Curriculum Development Center in Iowa City is experimenting with a new approach in teacher training. These people have identified a group of very good teachers from different regions in the state. Periodically these teachers are brought together and taught some new approach. They are also taught how to teach that approach to other teachers and then they return to their local regions where they hold workshops for the teachers in that area.

We could spend a great deal of time discussing the numerous other projects and developments that are taking place in the area of mental retardation because there are so many, but I want to give you a flavor of some of the research relating to other categories of handicapped children.

Our biggest single project relating to speech disorders is the National Prevalence Study. We have grown somewhat tired of guessing how many children have what kind of speech problems, and a national survey costing well over a million dollars will provide us with definitive information about the magnitude of the problem, what kinds of problems children have, and how many of them there are.

A lot of work has been done relative to the correction or articulation disorders. We have studied some of these problems through several research projects and are now about in a position to advise speech clinicians as to which types of problems they need most to work with and which can be left alone. We believe the answer to this continuing and perplexing question will be found through the synthesis of a number of completed projects.

In the area of hearing impairments, a great deal of emphasis is being placed on early education, particularly with reference to the Early Education Bill. A number of years ago we experimented with a number of home training techniques and found that it was possible to teach parents how to handle their very young hearing impaired children. There is also a lot of work going on relative to hearing testing. We are exploring even evoked potential as a method of testing hearing in very young children. We are working on curriculum and our most extensive area of investigation relates to the language development of the deaf child.

By far our most difficult area of research is that relating to the emotionally disturbed. We have had relatively little research in the area outside of research relating to operant conditioning. We have had some experimentation with self instruction devices--automated learning with crisis and other intervention techniques, but it seems to be an area in which we are having difficulty even pinning down the relevant variables. We are trying different things but we do not know for sure what it is that we are doing, why it works and why it does not work, and how to make it work better.

This has been a very brief and obviously superficial overview of the kind of research that is going on around the country, and I talked so far only about the past and the present. I want now to look a little bit into the future. I did not mention in my presentation the Instructional Materials Centers. It is not an oversight, because any discussion of the Instructional Materials Centers program as it exists today can only be a prologue for the future. The Instructional Materials Centers program has been a remarkable success. I can tell that by noting the number of persons who went through the IMC Exhibit here at the CEC convention. I can also tell by talking with the directors of special education, and by the numbers of associated centers that have developed around these original 14. The Instructional Materials Centers program has been successful because it touched upon a very sensitive nerve with teachers, that is, a need for more systematic information about materials and methods of instruction. But we found through that effort that more people than teachers need information--administrators need access to information as much as teachers and some of those even more; college professors need to know more about what is going on around them; state directors of education have a great need to know what is going on as soon as they can. We expect to see in the future not just a network of 14 Instructional Materials Centers but a broad communications network that includes everybody concerned with the instructional processes. We expect to see a system for rapid translation of research into systems for instruction and rapid communication into the hands of teachers. We expect to see the state education agencies serving as key links in the communications pipeline and we expect to see a center clearinghouse serving as a link between the researchers and developers and the consumers and practitioners.

We can look forward to an effective sharing of information throughout the country. Teachers, supervisors, administrators, and university personnel all must keep up to date as quickly as possible and in a form that is easy to digest. Such a network for knowledge will do much to bring this about.

We are standing on the threshold of another new development known as the Regional Resource Center, or perhaps better, Educational Resource Center. The resource center concept is built upon several assumptions. The first is that not only children have problems--teachers have problems and administrators have problems. Teachers are unable to teach some children. The child, of course, can be mentally retarded, emotionally disturbed, visually impaired, neurologically impaired, or otherwise impaired, but our problem is the teaching problem and our inability to teach these children. Until the day they walked into the school, many of them did not have a problem at all. The second assumption is that all children can learn if given the proper conditions. Unfortunately, many teachers facing a class of 15 to 30 children or more do not have the time to develop the proper conditions for an individual child. The resource center concept simply says that some teachers need help developing teaching procedures for some children. The Office of Education expects to support the development of 8 such centers over the next 2 years, but many more will develop under state and local funds as the value of the program becomes demonstrated. We expect the resource centers being developed under our authority to serve as resources to these other state supported centers as they develop.

In order to facilitate developments related to individualized programs for children with these unique learning characteristics, we expect to develop a National Data Bank for information about what seems to work with what kinds of children. Some time in the future we would also draw upon this data bank suggested approaches for teaching based on the characteristics of the learner and the situation.

Research in the past has concerned itself almost exclusively with the problems of teachers and children. We can look forward to research on systems of education and procedures for educational change. We will be facing the fact that much of today's educational system does not do the job that must be done and we will be looking forward to effective organizations and systems for education and systems for change.

I can summarize briefly by noting that there is major research effort in special education today and it will become better as it matures. We can look forward to practical solutions to the real live problems facing children and teaching. We are looking forward to a more systematic research effort than we have had in the past and we can expect to see a more serious concern with the evaluations of our efforts. In short, we are much better off than we have been in the past, and it appears to be that we have a better chance for the future.

INTERNATIONAL RELATIONS

COMPARATIVE SPECIAL EDUCATION--A CHALLENGE FOR TODAY--A REALITY TOMORROW

by

I. Ignacy Goldberg and John D. Webster

The theme of this paper is that special education can and should become an area of specialization within the structure of comparative education. Comparative education has been defined as the intersection of the social sciences educational areas, and the cross national dimension. Thus the concerns of comparative education are at the interface of the above general areas providing multifaceted directions and concerns.

Comparative special education refers to a field of study specifically concerned with the comparison of current theory and practice in the education of those pupils defined as exceptional. (Exceptional Children - Those who because of certain atypical characteristics have been identified by professionally qualified personnel as requiring special educational planning and services, whether or not such services are available. Each nation will reflect its own unique set of standards to the parameters of the term exceptional child. However, in general, the term "exceptional children" considers exceptionality on the basis of (a) physical handicap, (b) emotional or social handicap, and (c) measurable exceptionality in mental ability, i.e.: mentally gifted and mentally retarded. Some children have more than one type of exceptionality.)

According to Bereday (1964, p. IX) comparative education is "a young subfield in the very old discipline of pedagogy." It is probably as old as the practice of visiting foreign countries. Historically, man has continuously attempted to apply cooperation, coordination, and communication at all levels of his endeavor. Over 300 years B.C., Plato made numerous comparisons between Athenian and Spartan educational ideas and practices. Prior to the founding of the first two European universities at Salerno and Bologna, a variety of learning centers drew students from afar. Such centers as the monasteries of China, the forst ashrams of India, the academies of Greece, and the libraries and mosques of Islam drew individuals from scattered geographical areas and provided an applied dimension of comparative education.

It was not until the nineteenth century, however, that there were attempts toward a more systematic approach to comparative education. It is customary to begin the history of comparative education with the publication of Marc-Antonine Jullien's pamphlet, Questions on Comparative Education, published in Paris in 1817. It is interesting to note that the educational advantages of visiting foreign countries by young people were not readily accepted by the early American statesmen. "Why send an American youth to Europe for education?" asked Thomas Jefferson in a letter to his friend John Banister in 1785. He continued by viewing the disadvantages of sending American youth to Europe:

> ...If he goes to England he learns drinking, horseracing, and boxing. These are pecularities of English education... He acquires a fondness for European luxury and dissipation and a contempt for the simplicity of his own country...He

> forms foreign friendships which will never be useful to him...He returns to his own country a foreigner, unacquainted with the practice of domestic economy necessary to preserve him from ruin (Commanger, 1961, p. 56).

Sir Michael Sadler was also correct when he saw the practical value of studying foreign education and society in the chance to improve the understanding of one's own country. Issac Kandel, too, was correct when he viewed each nation's educational system as a species of laboratory where a particular attempt was being made to solve a more general set of social, political, and historical problems.

The problems we face today are far different than those of yesterday. The essential theme of living is change--change technologically, change socially, and yes, change educationally. No longer can we, or any other world citizen, live in comfortable isolation. We interact and communicate on a truly global scale, often communicating between countries with greater ease and simplicity than we can within our own communities. This projected breadth of involvement and need for activity facing the American special educator seems to be an essential ingredient of our life and times. The demand upon American education arising out of continuing involvements in world affairs shows no sign of abatement in the next several decades. In short, times and people change, and the gifted writers of each generation provide the basis for the critical study of these changes.

Comparative education is a scholarly discipline bound by definite methodological rules. From the available literature dealing with the theory of comparative education, one can delineate at least two major methodological approaches: area studies and comparative studies. The former deals with the education in one country or one aspect of education in one country.

The comparative type studies are considered by some authorities to be more complex, since they require analysis of philosophy, history, political science, and sociology in more than one country. Such studies are concerned with similarities, contrasts and relationships that exist between the items which are to be examined. To carry out such a study with any degree of finiteness of fullness is a truly monumental task. The essential breadth of the task is made more difficult by the speed of change. Any statement concerning comparative programs in special education is probably out of date before it leaves the typewriter.

A less ambitious version of the comparative study is the problem approach. It takes one aspect, one part, one theme in education and it traces its variations under foreign conditions. This approach appears to have the merit of establishing reasonable limits upon the range in which the researcher must work without rendering his work less comparative. A student of comparative education can locate many descriptive writings about educational systems in the various countries. However, this same student can locate only a very few analytical studies concerning the educational problems from the viewpoint of the international perspective.

It might be said parenthetically here that comparative education reports in special education have been almost entirely in the category of area studies. For example, when Tenny (1960) wrote about special education in the Soviet Union, he tried to deal with the totality of special education in one country; Izutsu and Powell (1961) dealt exclusively with special education for handicapped children in Japan. Another illustration of the area study is the Taylors' (1960) account of special education in Western Europe, which reported several countries, one at a time, as separate descriptions.

Whichever approach is taken, those interested in the results pose the same question. What can we expect from comparative education? Rosselo (1960) has listed the following expectations:

> 1. It fixes objectives. Every country, like every individual, aspires to reach the maximum of perfection. In order to plan, to reform, it is necessary to know one's aim, the ideal one is seeking. Before starting on its way, a country must be aware of the stage reached by the more fortunate.
> 2. It defines positions. There is no country which holds first place in every aspect of education, just as there is none which is in the rear in an absolute sense.
> 3. It creates a spirit of healthy competition. If used wisely, emulation is a source of development and progress.
> 4. It classifies problems according to their importance. Comparative education teaches us to classify questions studied according to their importance, or rather, their urgency.
> 5. It shows up the relativity of proposed solutions. Comparative education offers a showcase of sample solutions. Bearing in mind that education must "fit" not only the children but also the people as a whole, the persons responsible for planning will have the task of selecting the most appropriate formula and, before applying it, touching it up and adjusting it to fit the circumstances and methods of the country or region concerned.

In moving toward a more formal approach to comparative special education, we may assume movement and progress based upon visits abroad, the production of written material, and movement in the direction of cooperation with others of like interest. However, these primary and expected efforts may not get us anywhere. We may be from the viewpoint of the little boy watching his dog merely indulging in an exercise in tail chasing.

The circular movement of tail chasing is very much single goal oriented and may overlook key areas or techniques which are needed in establishing a workable global concept. As Noah and Eckstein (1969) point out in their new book on comparative education:

> At some stage of development, most disciplines have had to give thought to several related questions. What material and which problems lie squarely within the preview of the discipline and which are outside? What, if any, are the characteristic methods of the field? And what are the criteria for determining whether a piece of work in the field is good, bad, or indifferent?

The general field of comparative education is pressed to give answers to the above concerns. Often an answer to one proves a barrier to another, and in working through any single dimension of general concern we are faced with a whole variety of seemingly independent and mutually exclusive variables.

Several current authors point out that comparative education is an "interface" which draws from the overlap and mutuality of concern and action in areas such as the social sciences, education, and a variety of cultural aspects. This intersection of common concern or interface concept is very prevalent in such fields as public health and mental health. To apply it to special education, we would undoubtedly bring into focus some of the more critical and apparent lacks at the interface of several systems or models which are broadly concerned with service to people.

In preparing this paper the authors surveyed educational program areas listed by United National Educational, Scientific, and Cultural Organization. Over 47 different program titles were given concerned with education of the exceptional child. Such nomenclature as institutes for the handicapped, schools for backward children, special schools, auxiliary schools, and schools for sick and problem children were found. The rather full and impressive listing clearly demonstrates the differences and level of built-in confusion in semantics which faces us in considering comparative special education.

The last decade has seen a revival of interest in studying educational facilities for handicapped children in foreign countries. Many specialists and non-specialists report in professional periodicals and books what they have seen, or, rather, what they have been told is going on in this area of education. In some of these writings one finds conclusions, such as "Special education for the mentally retarded in country X is far superior to that in country Y," or, "We should place the responsibility for the care and education of the trainable mentally retarded under the Ministry of Welfare. The Ministry of Public Welfare in country Y does it, and it works beautifully."

Individuals arriving at such conclusions violate one of the most elementary laws of comparative education, which is, in essence, that an educational system has significance only when it is related to its own culture. No educational system can be used as a blueprint for another. Each one has grown and developed as an outcome of historical needs and historical forces within the respective country and cannot be successfully changed except with reference to its own national traditions and prospects. To argue that a special education system, or any other aspect of the total program, in one country should follow that in another country is illogical. Only the traditions and needs of a given country can determine the nature of its educational change.

Accepting this primary premise, it should be remembered, however, that comparative education enables us to learn from the achievements and the mistakes other nations have made in the process of solving similar problems. Thus, should a country want to duplicate foreign achievements in education, it could well seek guidance from comparative education in order to avoid the pitfalls into which the foreign systems have already fallen while they pursued their current achievements.

As the report of the Committee on the College and World Affairs noted--

> Three major historical thrusts...demonstrate the new dimensions and strategies of learning that will be required in our system: (a) the shift in relationships that has moved the United States, along with very few other nations, into the center of world affairs; (b) the emergence of new nations and the vast increase in the world importance of their cultures; and (c) the new complexities as well as the new opportunities that have been introduced into the process of interaction among cultures and nation states by the growing participation of people, as well as officials, in this process.

Each of the preceding historical thrust or action statements is of great meaning to us and to the field of special education.

Within the last several years, an increasing number of special educators from the United States have visited foreign countries, and they have shared with us their observations relative to comparative studies in this field. The following brief statements excerpted from some of these reports give a general idea of their reactions.

After a one month tour of capital cities in seven South American countries, Tenny (1958) mentioned two of his reactions:

1. ...appreciation of the relation of special education to general education and economic, political, and social development of a country.
2. The motivation one has to help in areas where there appears to be a great potential for progress.

Lowenfeld (1962), reported on the 1957 International Conference of Educators of Blind Youth, said:

> So far as the conference itself is concerned, it was my impression that it had something of a split personality.. One part of those attending wanted to discuss the problems in the education of the blind as they occupy educators in countries with differentiated services in education as well as in social welfare and rehabilitation. The other group was primarily concerned with basic provisions, that is, how to secure the bare necessities of maintenance and the fundamentals of education for children in less privileged countries.

Andersen and Stevens (1957) concluded their observations of education of the mentally retarded in Norway by saying that, "in general, problems in Norway are essentially the same as in many countries. There is much to be done and much to be learned."

After spending two years in Turkey, Ingram (1955) stated that, "the foreign consultant in education, whatever the land, must constantly try to look to needs and problems through the eyes and hearts of the peoples that he is serving. Their needs and problems are peculiarly their own."

Hindman (1961) noted many similarities and some differences in the programing for the mentally retarded of Holland and Denmark as compared with those of the United States. He reported quite directly that, "while we emphasize education of our retarded in institutions, the Dutch place major emphasis upon training individuals for their eventual return to a productive community life."

Tenny's impression (1960) from the Soviet Union is brief: "In evaluating the Soviet program of special education, one finds little that could be directly adopted in America."

Describing his observations from an international conference of teachers of the retarded, Goldstein (1960) compared the programs for the mentally retarded in the United States and in England as follows:

> In educational and training provisions for the mentally

> retarded, we appear to be more advanced than the British with the educable mentally retarded but behind them in work with trainables....Programs for the trainable mentally retarded present another picture. Here it soon becomes obvious that the Europeans have more effective and advanced programs than are typical in this country.

Izutsu and Powell (1961) ended their report on special education in Japan by saying:

> There is a long way to go before programs and facilities are capable of fulfilling the fundamental human rights of exceptional children. Special education regardless of geography is in a state of evolution. The differences from one country to the next are rather qualitative.

And, finally, in the comparative special education study conducted by UNESCO (International Bureau of Education) in 1960, the following conclusion was reached:

> The information collected from 71 countries shows that special education for mentally retarded is still at a very primitive stage. Even in the most advanced countries, the majority of mentally retarded children do not yet receive instruction adapted to their condition. In insufficiently developed countries special education for mentally retarded children is generally unknown, or is represented at most by a few isolated establishments.

In this quick review of several area studies reported and the UNESCO (1966) comparative study, there is evidence that special educators are aware of the contribution which comparative education can make to their phase of education, and they are taking the necessary first step toward the benefits which can be derived from it. These early efforts are the training ground and will afford preparation for more intensive and extensive research.

In order to compare current theory and practice in the education of children with handicapping disabilities in different countries, there is need first to develop the tertium comparationis, or the criteria against which two or more countries may be compared. This would provide a base from which special educators could evaluate their roles and define their functions. In 1960, Connor commented on the nature and scope of special education. With only slight modifications, her comments are proposed here as a set of criteria for the study of special education in various countries.

Special education has as its primary function instruction for children and youth who are physically, mentally, emotionally or socially handicapped. It assumes responsibility for selective content, educational vehicles and methodology. Within this general framework special education for exceptional children and youth are:

1. Enriching--providing experiences for child expression and a foundation for forging ahead.

2. Developmental--starting at the point of child function, however unexpected the level.
3. Evaluative--seeking learning barriers and areas of strengths and weaknesses.
4. Preventive--of failure, boredom, time wasting, and secondary handicaps.
5. Remedial--deleting blocks, reconstructing patterns of learning, reenforcing new learning and compensating for educational gaps.
6. Experimental--cutting new pathways in educational theory, philosophy, and practice.
7. Preparatory--for further education, optimum vocational placement, and independent living wherever possible.
8. Individualized--in approaching content, guidance, and programing from which each child can benefit.
9. Mobile--taking place wherever the child is.

Implicit in the philosophy and practice of special education in various countries are certain principles and assumptions which become important variables in comparative studies. Some of these principles and assumptions were mentioned by Wright (1959) as underlying the rehabilitation of handicapped adults, but they seem to be equally appropriate to this discussion as well:

1. Value of the human being. The human being is a being of worth to be respected and cherished, no matter how severe his disabilities may be. He has a right to be assisted in the unfolding of his personality and in the development of his personality and in the development of his potentialities for his own sake and for the good of society.
2. Membership in society. Persons with a disability, like anyone else, should partake of the activities that society has to offer. Separation is indicated only under the considered evaluation of personal and social welfare, and then only as a temporary expedient until reabsorption into the community at large is possible.
3. Assets of the person. Although man is beset with physical and mental attributes which often interfere with his well being, he also has a hearty complement of assets which can be supported and developed. The pathological processes in man's physical and mental makeup destroy; the healthy components restore. Emphasis on the latter is a formidable ally in ameliorating the former.
4. Comprehensive treatment. The importance of treating the person as a whole becomes less of a cliche, when it is realized that the individual's physical, emotional, and social problems are interdependent, with improvement in one area often depending on improvement in others.
5. Responsibility of society. Effective living requires constructive effort not only by the person himself, but also on the part of society. Society is obliged to establish schools, hospitals, recreational facilities, and work opportunities that will meet the needs of all its members. Where special needs are evident, special arrangements to accommodate them are indicated.

Perhaps what Wright is saying in emphasizing making a handicapped person aware of his potential and then providing the means of attaining that potential is what we here have attempted to establish--the inevitability of human values as a commonality for special education in all countries. The expression of this basic tenet may vary from country to country or even region to region; the reasoning behind it may differ widely. Comparative study ferrets out the differences and the similarities, and views them in the light of their cultural modus operandi. It is at this point that a tertium comparationis gives greatest meaning to the total knowledge accumulated by providing something to which to relate the item of information into a composite whole.

The foregoing considerations of comparative education and of comparative special education have, I hope, stimulated a number of ideas and questions specifically related to special education. In conclusion, I should like to pose three questions which seem pertinent to me and to discuss them briefly.

1. Is special education, as eeen in the international context, a part of the overall educational system?

No profession, field or discipline exists in isolation. Thus special education, while being an integral part of the overall educational system, relates to or impinges upon many other areas such as medicine, sociology, psychology, and philosophy. If we believe that special education can become, or is in the process of becoming a discipline in its own right, we must make the following assumptions: (a) it will define its body of specialized knowledge; (b) as a discipline it will be a discrete career field; (c) it will perform a function no other field now performs; (d) it will establish a code of procedure to which its practitioners will agree to adhere; and (e) it will establish a system utilizing research, training and service for a given end.

If the above assumptions have validity, we shall be able to strengthen the conceptualized tertium comparationis, and instead of comparing special education in the United States to that for example, in England, we will compare both to a set of criteria established as an integral part of the discipline special education.

2. Who should be the specialist in comparative education?

We are faced with the question should the comparative educator be a generalist responsible for special education as one of his many areas of concern, or, perhaps, should he be a special educator with a primary concern in and to special education? This is the same sort of problem enunciated by Vitruvius Polleo in 15 B.C., in De Architectura as to whether to prepare a highly skilled person in a special field or to prepare a broadly educated person. Polleo favored a strong and broad foundation as the best base for professional action. We also feel effectiveness in operation is found at neither extreme. Rather the person would be a theoretician skilled in both areas, able to bring to bear broad knowledge in comparative education, as well as in special education. As a special educator, this person should be well grounded in the foundations of special education including psychology, sociology, child development, history, philosophy, and other fields. As a comparative educator, he would be sensitive to the interrelationship of special education to many disciplines and fields, and should be able to delineate comparable variables in various cultures. The specialist should be able to meld concerns of special education and comparative education--he must of necessity be developed through the concerted efforts of special education graduate departments in cooperation with other resources available in our universities and other related facilities.

3. Can the methodology of comparative education be applied to special education?

Generally, this is so, but with certain modifications. The area study approach in special education should be the approach of choice for some time to come, and at a later time we will have the base to undertake the more sophisticated element of comparative studies. There is an immediate need to prepare a thorough analysis of special education in the United States in terms both horizontal and vertical. This would include its history, philosophy, demography or ecology, psychology, etc. This sort of broad based assessment of past, present, and future is long overdue in our field.

Existing barriers to the application of special education as an operable part of comparative education must be faced and overcome. An example of a primary barrier may be found in communication. Our jargon or "in-group" words create a semantic difference which must be understood before it can be overcome by the comparative educator. In addition, difficulties in nomenclature exist in our field with nations as well as between nations. Perhaps there is the need of some supraorganizational framework which distills base concepts into a simple structure of categories we can measure against--essentially a philosophical or theoretical frame of reference to translate into rough equivalencies the differing approaches and programs found in our one world. Other elements of difference are found in the structure of the institution, the status of the job, roles of individuals, and the degree of traditionalistic base which we have grown from.

This paper attempted to present the scope and methodology of comparative education together with their possible application to special education. Those of us in the main stream of American special education must move outward to build a broader base of competence and understanding of special education as a world wide process. We will expand our capacity for teaching, research and service, and in this fashion all exceptional children derive benefit. Perhaps of equal importance professionals in the field of special education will be able to work with open lines of communication allowing the long overdue interchange of ideas.

The culmination of all of this is a challenge for the future.

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ABSTRACT

THE CONCERNS OF UNESCO FOR PRESCHOOL HANDICAPPED CHILDREN

by

Paul C. Regan

The Office of Education has been concerned with international activities over the entire history of its existence, providing information to foreign ministries of education, attending international education meetings, and in many other ways following education developments in other countries. It participates in programs jointly sponsored by the Department of State under the Fulbright-Hays.

In March 1968 the Institute of International Studies was established in the Office of Education to enable the Office to find ways to bring an international dimension to all its efforts in education. In its international education activities the Office of Education has relied very heavily upon the nongovernmental organizations, many of which have organized international commissions or committees. We are pleased to be participating with the International Committee of The Council for Exceptional Children in the interest of learning about and possibly advancing the cause of education for exceptional children in the international sphere.

The activities of UNESCO are of interest to us inasmuch as this organization has the broadest scope in its relationships with the 123 member states of which it is comprised. Resolution 1.164 of the 15th General Conference of UNESCO reads as follows:

> The Director-General is authorized:
> (a) to carry out a programme of studies on special education for handicapped children and young people; and
> (b) to help Member States to develop and improve special education, using in particular, extra-budgetary resources, including such voluntary contributions as may be made for this purpose, and to participate, at their request, in their activities in this field.

In viewing the UNESCO program and budget for activities dedicated to education for the handicapped we might say three things about it:

1. Since these activities are subsumed under the section entitled "Right to Education," they are certainly in the proper context and no less inviolate than other rights.
2. The activities proposed are representative of the need, providing as they do for research studies, status inventories and surveys, training of special teachers for the handicapped, and mentally retarded children and provision of expert services.
3. But when the magnitude of the problem is contemplated the resources dedicated to its relief seem woefully inadequate--and a very limited defense of the right to education of those less well endowed than the rest.

To be sure this does not represent the total sum applied to this problem around the world. Other organizations are assisting in this work. UNESCO does work closely with UNICEF and administers programs funded by UNICEF which include work in the field of education for the handicapped, particularly the training of teachers.

The cooperation of UNESCO with the World Food Program (FAO) is a significant effort to attack the source of many handicaps (including mental retardation) that arise from malnutrition of the child bearing mother and the perpetuation of debilitating and destructive consequences throughout the lives of children.

The concerns of UNESCO for preschool handicapped children are distinguishable from the larger context of special education, more particularly in relation to educational programs which it administers in behalf of other international organizations.

As early as the second year of its founding, UNESCO, in 1948 in cooperation with the International Bureau of Education organized the 11th International Conference on Public Education. At this conference the principal subject under consideration was "School Psychologists." Much of the discussion at the conference revolved around the subject as expressed in the proceedings and I quote, "Detection of backward children, which is often the beginning of diagnosis and treatment of various difficulties in adaptation."

At the 23rd International Conference on Public Education in Geneva in 1960, under the joint sponsorship of UNESCO and IBE, one of the two principal topics of discussion was the Organization of Special Education for Mentally Handicapped Children and a recommendation on the subject was adopted by the conference.

In recent years and since 1965 UNESCO has begun to formalize a program of activities related to education of the handicapped and in 1967 it appointed a high level staff person to oversee the activities. A number of surveys have been undertaken among developing countries to obtain information on needs and projects that would justify international aid. A study was initiated on legislation concerning special education with a view to encouraging countries where legal provisions were inadequate to take necessary measures to remedy this situation. A directory of agencies and establishments dealing with special education was revised and published in December 1968. Continuous contacts are made with competent services of the United Nations (ILO, WHO, UNICEF) and with competent nongovernmental organizations active in the field. A group of ten experts on special education was convened by UNESCO in December 1968 to give advice and guidance on the long term development of UNESCO's program in this domain. A six week training course was organized in Denmark in August through September 1968 with a view to stimulating the development of special education in African countries. Several member countries have signified a special interest in having UNESCO pursue activities in special education by contributing above and beyond their regular contributions sums of money varying from $500 to $10,000.

The concerns of UNESCO for preschool handicapped children are not so explicitly expressed, but are rather implied in the more general activities of information gathering and organizing its program in response to the needs of member states. The priorities it has established at this time are not, and need not be, those of the next stage of development of its program. Any change of emphasis, however, will probably come from the efforts of professional organizations in this field. There are a number of such organizations on the international scene but they seem to be, for the most part, rather loose confederations with limited means and little influence. These need to be strengthened if they are to make any impact on UNESCO and its program.

If one were seeking a strategy to advance a single part of the broad spectrum of the problems of the handicapped, such as the concern for the preschool child, it seems that he would seek to identify with one of the more vital and upcoming influential organizations such as WCOTP. This organization, which should certainly prove sympathetic to such an interest as yours, is a rapidly growing one. It has roots among the teaching profession in almost all of the 123 member states of UNESCO. It enjoys a good working relationship with UNESCO and has an advisory status with respect to UNESCO's program and budget.

I don't mean to overlook the World Organization for Childhood Education which also has a consultative status with UNESCO which has provided a $12,000 subvention to it for the years 1969-1970.

It is certainly to be hoped that as other priorities in the UNESCO program become less demanding, and as the need that you would like to meet becomes more assertive, increased allocations may be dedicated to this work. What I have talked of here are halting steps to be sure, but they are forward steps, and they are the foundation upon which UNESCO can continue to build.

THE INVOLVEMENT OF SOME FEDERAL AGENCIES IN SPECIAL EDUCATION IN LATIN AMERICA

by

Joseph Rosenstein

In October 1966 I had the privilege of spending a month in Chile working with the National Ministries of Health and Education to assist that country in establishing a course of preparation of teachers of deaf children, in conjunction with the University of Chile, which had initiated a similar program for teachers of retarded children just a few years earlier. I was sent at the request of the Organization of American States and the Pan American Health Organization. Some time after my return to the United States, I began service with the federal government. It is primarily on the basis of these experiences that I have been asked to participate here today and it should be obvious to us all that a limited experience in one South American country does not produce an "expert" in Latin American special education.

This, in fact, points up a basic problem: lack of understanding and lack of exchange of information in interAmerican special education. A contributing factor to this particular problem might well be the multiplicity of governmental, voluntary, and private agencies, under whose auspices funds are made available for activities relating to education in Latin American countries. I would like to share with you, first, some of the information I have been able to gather regarding activities of some governmental agencies (not only those within the Department of Health, Education, and Welfare) and, second, some opinions regarding problem areas in special education in Latin America.

Within the Department of Health, Education, and Welfare there have been activities in the areas of rehabilitation, health, and education of Latin Americans which have had some bearing on special education in Latin American countries.

Office of the Secretary, Department of Health, Education, and Welfare

There are a few federally funded special institutions that are operated directly out of the Office of the Secretary of DHEW: Howard University and Gallaudet College are two that have from time to time admitted Latin American students for study. Howard University has admitted an average of four students per year, but information is not readily available concerning the areas of study these students followed. Deaf students have come from at least five Latin American countries for study at Gallaudet College, the only liberal arts college for the deaf in the world.

Social and Rehabilitation Service--The Children's Bureau

The Children's Bureau has had a very small Division of International Cooperation which coordinates the Bureau's international activities and carries primary responsibility for work with foreign students and visitors to the United States by planning and implementing programs for professionals from other countries who are sponsored by the Agency for International Development, the United Nations, or the Department of State, and whose field of interest corresponds to the areas of concern and competence within the Children's Bureau. This means the placement of the professional person in a university medical center or a graduate school of medicine, public health, nursing, or social work and/or finding a field training placement. From 1955 to 1962 the Bureau worked with 111 persons from 16 Latin

American countries. Of these, 31 were nurses, 45 were physicians, and the remainder were unspecified by profession. The largest number received training in child welfare, others in juvenile delinquency and psychiatric and medical social work. The majority of these persons were under the sponsorship of the Agency for International Development (AID) and the World Health Organization (WHO). Other activities of the Children's Bureau include receiving a large number of short term visitors; and, upon request of the United Nations or the AID, the Bureau has helped in the recruitment of child health physicians, nurse-midwives, maternal and child health consultant nurses, child welfare specialists, children's institution's specialists, and medical social work consultants. Consultation services to a half-dozen countries have also been provided, as well as literature in response to requests for information in the areas of child health, crippled children's services, child welfare services, and juvenile delinquency.

Social and Rehabilitation Service, Rehabilitation Services Administration

Training programs for specialists and students from other countries in all rehabilitation related fields have been planned and supervised by the Rehabilitation Services Administration since 1947. The first Latin Americans came in 1949 under study grants or fellowships from the AID, the Department of State, or the United Nations.

As governmental or voluntary agencies have sought to develop their rehabilitation services for the disabled, carefully selected individuals have been sent to the United States to study administration of the public program or rehabilitation center administration, physical medicine, orthopedic surgery, rehabilitation nursing, prosthetics and orthoptics, physical and occupational therapy, speech therapy, rehabilitation counseling, services for the mentally retarded, the blind, and the deaf, and operation of sheltered workshops. Others with broad responsibilities for total health and welfare programs in their countries have spent briefer periods consulting with rehabilitation staff. Each program is planned on an individualized basis, related to the nature of the service being carried on in the country and the demands that will be made upon the trainee upon his return.

From 1949 to 1965, 341 Latin Americans have studied or observed rehabilitation programs for the disabled--114 participated in long term training and 227 in short term observation and/or training. In 1961, with funds made available to the then Vocational Rehabilitation Administration for support of international rehabilitation research under PL 480, grants were made to two rehabilitation centers in Sao Paulo, Brazil to conduct several projects.

The Rehabilitation Services Administration also assists the Agency for International Development and the United Nations in recruitment of rehabilitation consultants and advisors for service overseas. Among those recruited for service in Latin America is the rehabilitation consultant who has been employed by the Agency for International Development to provide assistance in developing services in public and private agencies in Mexico, Central America, and some South American countries since 1952. Consultants on services for the blind, the deaf, and in the production of prosthetic appliances for Mexico were also recruited for that agency from time to time. Currently, there are no international rehabilitation research funds earmarked for Latin America.

Public Health Service, The National Institutes of Health

Under the authority of the International Health Research Act of 1960 (PL 86-610), the National Institutes of Health participates in support of the research programs of international agencies such as the World Health Organization and the

Pan American Health Organization. Graduate training at the various National Institutes in Bethesda has been given annually to as many as 100 Latin Americans from all the countries under the Visiting Scientist Programs.

Two of the five International Centers for Medical Research and Training established by NIH in 1965 were located in the Latin countries of Colombia and Costa Rica. Applications for grants for these centers are made by an American university which establishes within its own organization an International Center, simultaneously negotiating with a foreign institution of its choice to establish an affiliate center which will have the necessary research facilities and scientific and technical competence to support the research program agreed upon.

Other international activities of the National Institutes of Health include research grants to foreign scientists (from 1954 through 1962, about $3.5 million was awarded to 46 Latin American institutions in 12 countries for health related research), and for training of foreign scientists in the US as well as support of US scientists to work overseas. There have undoubtedly been some beneficial application of these research efforts to special education in Latin America.

Office of Education, DHEW

The various activities in international education within the Bureaus of the Office of Education have been reorganized and incorporated under OE's Institute of International Studies, whose funds are authorized under the Fulbright-Hays Act (PL 87-256); the Mutual Educational and Cultural Exchange Act of 1961; PL 83-480, the Agricultural Trade Development and Assistance Act of 1954; and under Title VI of the National Defense Education Act of 1958.

Within the programs conducted by the three divisions of the institute, there appears to have been relatively little direct involvement with special education, though by no means should this be interpreted as a form of "discrimination" or policy established by the institute staff. The bulk of the institute's appropriated funds ($7.7 out of $8 million last year) has been precommitted to the 106 Language and Area Studies Centers in the US, 17 of which focus on Latin American studies which leaves a relatively small sum for the remaining programs operated by the institute.

The institute conducts a program known as the Latin American Educator Workshops in two locations. Administrators and supervisors in elementary and secondary education come in groups of 36 to the University of the Pacific for a 4 week's stay. The other workshop is held at the University of Puerto Rico in Rio Piedras and is designed for elementary and secondary school teachers. It was initiated in 1956 when it was observed that some plan needed to be found for sharing knowledge and resources with Latin American, nonEnglish speaking educators. The institute operates this program in conjunction with the Department of State.

The workshop consists of a 4 week seminar dealing with the principles, philosophy, and organization of the educational system in the US and is conducted in Spanish. Coupled with the morning academic sessions are afternoon visits to schools and other public institutions, Commonwealth and/or federal projects, and cultural centers. Altogether more than 1,200 educators from 19 countries have participated in the Puerto Rican workshops held thus far. Although special education is not a target category for this program, special educators have been included among the participants in these workshops. The selection of participants is accomplished in the local country, and the workshops are advertised locally through the auspices of the US Information Agency.

The institute's authorities also include the Teacher Exchange Program conducted in conjunction with the Department of State, as well as the exchange of researchers, specialists, and professors. Most of the researchers, lecturers, and teachers have been interested primarily in the foreign language area and in secondary education. Because of the paucity of funds in recent years, no US citizens were sent to Latin America, but some Latins did come to the states.

Out of the 300 or more persons who are brought into this country annually for a maximum stay of 6 months under the International Educators Development Program, there have been about 4 or 5 persons per year whose interests are in special education, and of these, 2 or 3 per year are from Latin American countries. Last year, three were Brazilian teachers of retarded children and one was a speech therapist. Applicants for this program must apply to the Fulbright Commission or the Cultural Office in the US Embassy in the host country.

Peace Corps

Peace Corps volunteers are currently serving in 9 Central American and Carribean areas and in 11 South American countries. In a recently published statistical summary, as of the end of 1968, the following number of volunteers with skill specialities were listed as working in Latin American countries: 2 speech therapists, 2 teachers of the blind, 3 occupational therapists, 6 social workers, 41 vocational educators, 7 guidance counselors, 7 audio visual specialists, and 17 teachers, "other" (not elementary, secondary, or teachers of teachers).

In general, Peace Corps workers go where they are invited and regarding education efforts are primarily concerned with curriculum development and inservice programs in elementary and secondary education, offering substantive input in order to reform existing education structures.

Some of the problems outlined by a Peace Corps informant about the success of volunteers in Latin American educational reform centered on the problem of resistance. Resistance to change is found in the entrenched authoritarian structure --both in the family and in the nation--and is evidenced by cultural paternalistic attitudes toward the poor, the handicapped, and other similar groups. Very often, the existing system cannot overcome its own inertia to mobilize itself to supply the necessary resources. Resistance to curriculum revision and new methodologies also occurs when such change is inappripriate to the existing cultural patterns and resources. Regarding the inservice training activity, in many Latin American countries the educational payroll system is "shamefully low" and does not provide sufficient incentive to those who might wish to continue as teachers. These points are equally as important for those interested in the future of special education in Latin American countries.

Department of State, Bureau of Education and Cultural Affairs

The Bureau of Education and Cultural Affairs conducts an extensive Exchange of Persons program, effectuating student, professor, and teacher exchanges under the Fulbright-Hays Act, with the assistance of other governmental agencies already mentioned. There is coordination as well with the AID, which is an independent agency also within the Department of State.

In order to be eligible for most of the programs, each country submits its program or plan which specifies the areas, fields, and jobs desired, giving its areas of priority. The plan is reviewed by the Cultural Unit which does not innovate or dictate specific policy. Broad policy items are sometimes indicated, for example, that there should be a concentration of American professors in curriculum revision or in an area where the nationals cannot fill the positions.

In the general review of the submitted plans, I asked an informant if any country's request for special educators had ever been denied, for priority or other reasons. To the best of his knowledge, no Latin American country had been denied funds when there was a request for special educators.

It is the Fulbright Commission that selects the nationals who come to the states. The commission is binational, with a representative of the American Embassy; a local national, serving as executive secretary or director; university, business, and professional persons from that nation; and some American residents. In those countries where there is no Fulbright Commission, the Cultural Officer at the US Embassy is the contact person.

This past year the Bureau received severe cuts in appropriated funds, so the numbers reported here may not necessarily reflect average annual numbers of grantees. I have mentioned the Teacher Development Program conducted in conjunction with the Office of Education. The Ministry of Education together with the Fulbright Commission selects teachers for a 6 month stay in the US--4 months to be spent at an institution where a special program has been arranged in teacher education and 2 months visiting schools. Last year 189 Latins came to the states, 4 of whom were from the field of special education.

The Foreign Leader and Specialist Program which may include special educators, gives grants for travel and per diem for an average stay of 30 days. Grantees are nominated by the post, or Fulbright Commission, in each country, which is given a certain number of such grants each year. The commission determines how these grants may best be used. Last year 315 Latin specialists came to this country. Examples of grantees that have come are: the Director of a Reeducation and Rehabilitation Center for Delinquent Boys in the French West Indies, to study methods of training counselors; an educational assistant and teacher of the blind from Brazil; the Minister of Youth and Community Adjustment from Jamaica, to study or learn pertinent administrative methods.

In the Foreign Student's Graduate Study Program, 323 students came to the US last year for a full year of graduate study, having been selected by national competition in the host country. A headmistress of a school for the retarded in Argentina came to major in educational psychology under this program, for example, and there may have been others.

In the American Professors Program, the most expensive of those conducted by the Cultural Unit, the host country in some cases may request a particular person, but by law, in order to fill the request of the host country for research professors, persons are selected by a 12 member Conference Board of Associated Research Councils at the National Academy of Science, which not only approves, but also recruits and selects candidates. The year's stipend does not equal the salaries offered at American Universities. Sixty Americans participated in this program last year.

Another program is the American Specialist Program, where specialists are sent out from the main office to fill a country's request. Twenty persons visited Latin American countries this past year; one, a blind person, who visited schools for the blind and gave lectures to teachers. In 1962 Peru decided to give long range priority to special educational needs and Dr. William Cruikshank went to suggest programing for the mentally retarded, the physically handicapped, and those with speech and hearing problems. In successive years Mrs. Miriam Tannhauser has consulted on national special education needs and established courses in learning disability at the University of San Marcos in Lima. Dr. Fils, a special educator from Los Angeles, then visited Peru for about a year. Dr. Joseph Stubbins next established the first vocational rehabilitation program, and Dr. Sonia Wakstein more recently spent 5 months there, lecturing and programing for social case work and child guidance. As part of their stay, American specialists are also invited by other neighboring countries to lecture and consult for 2 to 3 week periods under an intercountry loan arrangement.

There is also a one year grant Program for Foreign Professors and Research Scholars to come and teach or do research. This year 69 came from Latin America.

Only 22 American undergraduates this year were sent to Latin American universities under the American Student Program. Last year there were 90 students. These students were carefully selected through regional interviews and panel evaluations. The aim of this program is to develop good potential graduate students, and is differentiated from the Office of Education's graduate student authority for foreign language studies.

When I asked an informant at the Department of State why there were so few examples of special educators involved in the various programs, I was told that each country had set priority in terms of the educational needs of the general populace, that university needs were also great, and that all were governed by general cultural and economic pressures.

What I have presented thus far has been an overview of the legal authorities and programs through which funds are made available to both Latins and Americans, and under which special educators may indeed have taken and may take part. There are other less formal channels by which special education offices within the government have established and maintained contact with Latin American countries. The President's Committee on Mental Retardation has such a contact with an Organization of American States-supported agency, the Instituto Interamericano Del Nino, in Montevideo, whose purpose is the "study of the problems which affect children, adolescents, young people, and families of the Americas and to recommend means by which these problems may be resolved." One division of this group is the Commission Para El Estudio Cientifico de la Deficeincia Mental, which is only one of the many areas of concern of this organization, which also publishes a bulletin three times a year. A recent issue devotes about 100 pages of excellent material on dyslexia.

I recently wrote an American colleague, who is currently in South America under UNESCO auspices and asked if further US assistance or support is needed and what might be identified as issues or problems in special education in Latin America. The reply came a few weeks ago and presents experiences gleaned from visits to several countries, which complement the observation I had the opportunity to make during my all too brief contact in only one Latin American country. The answers were as follows:

1. Professional people in Latin America resent the fact that professional work, publications, and the like, from Latin America are never recognized, referred to, cited, or included in bibliographies or US professional publications. The US could help by including abstracts of important works from Latin America in English in its professional journals. In like manner, it would be helpful if abstracts in Spanish could be provided to professional journals in Latin America, of articles of mutual interest from US professional journals.
2. The US could help by inviting outstanding professional people to give papers at US professional meetings and by providing translation services so that they

could deliver their papers in Spanish. This is done consistently for US professional speakers in Spanish speaking countries. Why doesn't the US return the courtesy?

3. The US can help through better support and participation in international professional organizations.

4. The US could help by establishing and maintaining contact between like professional groups, for example, the American Psychological Association or the American Speech and Hearing Association. There is no association for all of Latin America equivalent to CEC, but there are equivalent associations within many Latin American countries.

5. The US could help by learning that Latin American countries are separate entities--which differ greatly in many respects. They prefer to be regarded as countries--not as one big glob. New York State, for example, would not like to be thought of as equivalent to Alabama. Neither would Chile and Bolivia--which actually differ even more than do Alabama and New York.

6. The US could help by recognizing that the US has no corner on the brains and the knowledge of the world. They could learn a lot from countries which cannot afford expensive equipment, research centers, and prolific publications. The ingenuity employed in many centers in Latin America would astonish the scientific engineer and shame the most brilliant researcher.

7. The US could help most of all by taking the time and making the effort to understand "what makes other people in the world tick." This is a difficult and time consuming process which starts by teaching young children to speak foreign languages and arrives at the point at which people with different standards (many of which we find hard to tolerate) can meet on equal terms and work together on common problems.

Regarding the main issues and problems in Latin American special education, my colleague writes:

1. Every intelligent Latin American wants to be a specialist in something, in the shortest possible time, at the least possible cost. The law of supply and demand has no effect on professional choice. Communication between countries is very poor. Argentina has a surplus of teachers of the deaf. Many countries in South America have none at all. The graduating class of psychologists in Peru has no jobs. Outside of the city of Lima there is not one single psychologist in the entire country. The US cannot solve this problem.

2. Latin Americans by nature crave recognition, just as do their North American counterparts. New programs and projects must contain the element of prestige. As prestige and recognition wane, programs and projects may wane, and someone may have to begin them all over again from scratch. The United States cannot solve this problem.

3. There are also cultural differences in approaches to problems. Concrete tasks are more attractive than abstract generalities. There is a preference for "putting out fires" rather than discovering the source of the flame. The United States cannot solve this problem.

4. Latin Americans are excited by new ideas but do not enjoy the generality of preplanning and involvement with tiresome details. When a project fails, there are plenty of concrete reasons to justify its failure. The United States

cannot solve this problem.

5. Survival through the years in many countries in South America has depended on one's ability to look out for self and family. This has created a strange contradiction. People are by nature warm, friendly, and kind, but at the same time, distrustful and fearful of others outside their own circle. This condition, not unique to South America, results in a bureaucratic organization which North Americans often find difficult to understand, and misinterpret as inferior cultural values.

6. People are apt to be selected for their jobs by criteria very different than those used in the United States. Organizing and re-organizing are preoccupations in South America and organization may change as often as influence wanes.

My correspondent wrote that he had listed ways in which the US can help. Unfortunately these are not the ways in which we would like to help our "unfortunate neighbors." He wrote that our "unfortunate neighbors" want recognition. They want to be accepted on equal terms. They want to be understood--but they don't want to have to change--to give up their ways.

When the US learns that most Latins will get anything they can, from anybody they can, by any means they can, they will understand the survival instinct. When the US learns to deal with Latins in terms which the Latins understand, the US will no longer be the great rich uncle which "can be taken." When the US is able to control its moralistic efficiency drive, it will be able to give the Latins the recognition they crave. Maybe, then, if we are all still alive, we can work together.

My correspondent asked me to tell CEC for him that when they really want to know about special education in Latin America, they will organize a Latin American Panel, invite Latin American people, and arrange for simultaneous translations so that they can speak in their native tongue. When and if that time should arrive he would be glad to furnish them the names and addresses of people from whom they can learn a lot--provided, of course, they have the ability to separate culture from science. Until then it may be wise to stick to statistics.

Special education, like everything else in Latin America, is a product of the culture. It is a culture which, in general, the people of the US do not understand and would find hard to accept. It is a culture which US citizens enjoy for a vacation but find hard to take in International Conferences. They therefore assume that nothing good could come out of such a mess. The natural reaction then is to try to change the culture--to help them if they will do it our way, according to our standards, and in a way which we consider efficient. This is natural, but wrong.

To understand the issues and problems in Latin American special education, one must first understand the Latin American people. When understanding reaches the level of acceptance, when we are able to recognize them on equal professional terms, we will find that the problems and issues in special education are exactly the same everywhere. Professional knowledge and technical skill must be shared. but problems and issues must be resolved in each culture in its own way.

ABSTRACT

PRESCHOOL EDUCATION OF THE HANDICAPPED IN NEW ZEALAND

by

Jim Havill

There has been in New Zealand increasing awareness of the need for educational provisions for handicapped children from an early age. It has been recognized that the total development of the child will be affected in a positive way if we are able to provide him with stimulating preschool educational experience.

The education of handicapped children in New Zealand shows evidence of increasing support for the integrationist viewpoint of philosophy. This position is now also increasingly becoming evident in provisions that are developing for preschool handicapped children. Every encouragement is being given to having handicapped children share the preschool educational facilities that exist for other children and, although guidelines have been established, there is an impressive amount of flexibility to meet individual situations and needs. The underlying philosophy of integrated facilities is well known. Suffice it to say--it is believed that the stimulation provided for the handicapped when they are educated at this level with nonhandicapped youngsters is of prime importance in their development. For example, it is considered important for language development that young deaf children experience an environment of normal patterns of language and speech.

There is a nationwide system of preschool education for 3 and 4 year old children which has been in existence for several decades. One in three children of this age level attend a preschool provision. Most attend government financed kindergarten or play centers. Note that the term kindergarten refers to a preschool for 3 and 4 year old children and not for 5 year olds as is the case in the United States. New Zealand children enter regular school at the age of 5 years.

Preschool provisions of this type are initiated by popular demand and effort. The movement for more provisions is extremely lively. During 1968, 15 kindergartens and 58 play centers were opened and the rate is increasing. Each year 120 to 160 kindergarten teachers are being trained. In addition, neighborhood play groups, hospital play groups, nursery classes for children under 5 in regular rural schools, and industrial day care centers are being developed and these share education department preschool advisory services.

In all public supported or subsidized provisions there is nonlimited and priority access for handicapped youngsters. The handicapped child does not have to wait for a place. All efforts are being made to meet the children's needs in these settings rather than in special facilities for the handicapped. This type of provision is expanding and many types of handicap are encountered in kindergarten classes. They include deaf, visually handicapped, cerebral palsied, spinal bifida, mentally retarded--educable and trainable, emotionally disturbed, and speech impaired. Of course there is more involved than just placing handicapped children in these facilities. The teachers have advice and support from school psychologists and other specialists in the particular locality, e.g., visiting teachers of the deaf, teachers of the visually handicapped, and organizers of classes for the mentally retarded.

I was involved, along with other specialists in different areas of exceptionality, in conduting evening workshop sessions for kindergarten and play center personnel on the part they could play in meeting the needs of these children. The

enthusiasm and common sense that these teachers brought to the situation leaves me with no doubt that these people have a real contribution to make to the education of young handicapped children. Of course the additional burden of handicapped children has to be recognized and because of this in any kindergarten with 5 or more handicapped children in attendance an additional staff member is employed.

One aspect of involvement of general educators in this manner that appeals to me is that special education remains very much a part of the general education provision. This tends to break down the compartmentalism and at times even the mysticism that is often a part of special education, but it is still recognizing the part that the expert in special fields has to play.

It is probable in the field of preschool deaf education that most comprehensive services are found. Each of the two large residential schools for the deaf have both day and residential provision for deaf children from 3 years of age. This is a traditional type provision. Visiting teachers of the deaf are providing diagnosis and guidance services in the home from time of diagnosis. Between the ages of 2 1/2 to 5 years, attendance at a regular kindergarten is encouraged. When only one or two children are involved, teachers have advisory service from visiting teachers of the deaf, however, when there are from 3 to 5 children a parttime teacher of the deaf is employed. Where there are several children within an area, one of these groups is established and the children are brought in.

Similar schemes are being considered for other groups of handicapped children. At the moment attempts to organize these for young cerebral palsied children are proceeding.

Although other areas of exceptionality do not have the comprehensive services of the deaf, there are facilities in most parts of the country. Children with speech problems may be served from the age of 3 years in speech clinics at public schools. Visually handicapped children in some centers have advisory services from school psychologists or special teachers, and the residential school for the blind accepts children from the age of 3. A weekly meeting of parents and a play group for deaf-blind preschool youngsters is conducted in one center with advisory oversight by a specialist teacher. In another city the school psychological service has a monthly meeting for mothers of visually handicapped and rubella affected preschoolers. Other special provisions are provided in some localities by private groups such as the Intellectually Handicapped Children's Society, the Crippled Children's Society, and Parents of Deaf Children.

In summary, we have in New Zealand a tremendous growth of interest in the provision of preschool educational opportunity. Above all, the flexibility and ability of present general provisions in meeting the needs of handicapped children points to some exciting possibilities in the future.

RESEARCH

THE CALIFORNIA EXEMPLARY CURRICULUM GUIDES PROJECT

by

Joyce Hagen Sonntag

The project described on the information sheet was designed to answer the need for examples of differential curriculum for gifted children. As most of you know, traditional operations in special education for the mentally gifted have been either on the enrichment model--gifted students have the same curriculum as other students, but go "deeper" into the subject; or on the acceleration model--they cover the same curriculum, but "faster." In the differential model, gifted pupils are offered experiences that are particularly appropriate to their special needs and abilities. A generation of research has yielded any number of lists of "characteristics of the gifted." The defining characteristic, of course, is the ability to operate at what Dunn (1961) calls a "high ideational level," but the need to talk a lot and the desire for a high level of autonomy are also educationally relevant. Virgil Ward (1961) analyzed the nature of the gifted students in Terman's study and proposed a theoretical framework for a program of special education "conceived uniquely with respect to the capacities which characterize the gifted child." Paul Plowman (1967) has recently offered an inclusive framework for differential education based on a synthesis of the higher levels of Bloom's taxonomies and the dimensions of Guilford's model of the Structure of the Intellect.

The initial purpose of this project was to help to push differential education from the literature into the classroom. The 36 curriculum guides will offer usable examples of differential education in 12 subject areas at grade levels from kindergarten through high school.

A unique aspect of this project is its emphasis on the affective domain. Nearly 10 years ago, Krathwohl, Bloom, and others spelled out a list of educational goals related to learning on the feeling level. Some new thoughts in this area have been brought to us by George Leonard (1968) who said, "A moment of learning is a moment of ecstasy." In case such moments require further justification, he also reviewed the national needs and concluded, "The times demand that we choose delight." The authors in this project have chosen to add Delight to the hierarchy of educational goals.

The affective side of education has been tremendously neglected in our programs for the gifted. Four reasons for this neglect suggest themselves:

1. The first lies in the limitations of our traditional educational theory: We have set limited goals for all children.

2. A reinforcement cycle supports an emphasis on cognitive production. The mentally gifted come to school with highly developed cognitive abilities and respond to cognitive stimulation in very satisfying ways. This is reinforcing to the teacher, and she is encouraged to continue the rewarded behavior. The gifted pupil's heightened awareness and superior data processing skills enable him to make marvelously accurate assessments of the expectations and satisfactions of the adults in charge. Thus the teacher's reactions reinforce the student's cognitive production and has a "shaping" effect on his

future behavior. The danger is that he will internalize the limitations inherent in the teacher's goals into his self concept, that he will come to feel and behave as though his place in life is to know things--to be a container of knowledge, and perhaps, a vehicle for its transmission to other containers.

3. A third reason for our exclusively cognitive emphasis has to do with justification. We are uncomfortable with inequality, so first we make children uncomfortable about having superior intellectual talents. Then we offer them an out--justification by social usefulness. If they work "up to their ability" (by this we mean perform on tasks of our choosing at a level we decide upon), developing their cognitive powers in ways that best serve a technologically sophisticated nation's need for brainpower--then we might forgive them for being so undemocratically smart.

4. The fourth reason is expedience. Though we all deplore it, the child who catches on to today's math lesson after the third example is still the most likely to be the one who has to do the three extra rows at the bottom of the page. It is such a convenient way to use his time.

This is not intended as an indictment of teachers. It is time that we stopped yammering at them and offered some help. Teachers have become the scapegoat of society, a convenient dumping ground for our social guilt. They are constantly being told that they are failing with the disadvantaged, with the gifted, or with some other of the complicated jobs for which they have been given little training and no help. Teachers are not slow to realize that the gifted pupil presents different needs and abilities, and benefits from different experiences in different ways; but teachers need help in implementing this recognition. The curriculum guides now being developed will offer examples of differential education in a form immediately useful to the teacher of the gifted.

I would like to share with you a few examples from the guides I have been reading. Some of our authors have been particularly inventive in building delight into curriculum.

Mathematics in Primary Grades by Marian Pasternack. One part of this unit introduces Pascal and Fermet as personalities and provides opportunities for the students to play around with theories of probability--they predict, experiment, and chart their results.

Advertising as a Vehicle for the Study of Composition and Usage by Sandra Kaplan and Helene West. These authors have included sensory objectives as well as affective and cognitive, and ask such questions as "How does what you see in this advertisement differ from what others see?" "How do your interests affect what you see?" The emphasis in this guide is on learner directed experiences, and it can be utilized in highly individual ways. The students examine the conditions of credibility ("When do you believe an ad?") and explore value systems ("How do you touch someone else's values? How do you know when one value takes precedence over another?"). A variety of activities are suggested ("Transform a secret desire into an ad."). This curriculum can be used at any grade level.

Three Styles of Literary Criticism by Deborah Osen. The students are asked to formulate their own criteria for judging literature, and apply them in the criticism of something they have read. After the study of each of three styles of criticism, the student reviews his own original criteria and decides whether he wants to change it in any way to reflect the ideas of the critics he has been studying. Each student will evolve a style of literary criticism that is uniquely his own.

Several guides are being developed in the San Juan Unified School District as team operations, under the direction of Dr. James W. Smith:

Inquanid Inquiry reflects Brandewein's emphasis on behaviors, as presented in "How to Be a Scientist." The student learns to understand and value science from the opportunity to participate in the kinds of activities in which scientists engage.

The Fine Arts curriculum introduces students to the ways in which feelings and ideas are expressed in ceramics, paintings, and films, offers the opportunity to try these media, and encourages them to organize their own values to see how fine arts fit into their ideas about how they want to live.

Synectics Solutions to Problem Solving. The students will read contemporary black literature to provide a focus on problems. Then in groups they will use four different problem solving techniques to clarify a problem, analyze it, determine the values and issues involved, and find possible solutions. This activity also provides the experience of confronting one another's values. It is followed by the opportunity for each individual to choose one method of problem solving, apply it to a problem of his choice, and write an action plan for the implementation of a solution consistent with his own values.

The Physical Education unit was inspired by some materials from a Title III project in Battle Creek, integrating a sequence of physical activities with the study of the body and its needs into a problem solving approach to physical education. This curriculum arranges the basic manipulative skills involved in ball sports and gymnastics into a sequential program, so that the teacher can assess the child individually, and give him a program tied to his needs and skills, and integrated with the study of his own body.

I would like to close by telling you something about the way we began. We invited a group of gifted children to meet with the authors on this project and to say whatever they thought should be said to people who were going to write curriculum. They had a lot of opinions and the discussion was lively, but the lines that were spoken with the most intensity were these: "If you are going to write curriculum I think you should put on the front page...in RED...no, put on the top of every page--'ANY TEACHER WHO FOLLOWS THIS CURRICULUM VERBATIM WILL BE PENALIZED.'"

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ABSTRACT

CREATIVITY AND INTELLIGENCE: THEIR RELATION TO PEER ACCEPTANCE

by

John F. Jacobs and Myron A. Cunningham

Since 1931 the relationship between intelligence and peer acceptance and the various handicapping conditions and peer rejection have been reported. Intelligence has been reported to have a low positive relationship to peer acceptance and the various handicapping conditions have been shown to be negatively related to peer acceptance. In the present project, a stratified random sample of 400 elementary school children was studied. Two peer acceptance ratings were analyzed: acceptance in social situations and in academic situations. Two separate 5 x 2 x 2 x 2 factorial ANOVA's were analyzed. Results suggest distinct relationships and significant interactions between intelligence and creativity on peer acceptance, as illustrated by Figure 1.

Social Acceptance

	Intelligence	
	High	Low
High Creative	25.5	27.2
Low Creative	30.6	16.7

Academic Acceptance

	Intelligence	
	High	Low
High Creative	34.5	28.1
Low Creative	26.5	10.9

FIGURE 1. Weighted comparison of high creative-high IQ, high creative-low IQ, low creative-high IQ, and low creative-low IQ children as selected by peers in social and academic situations.

ABSTRACT

THE EFFECTS OF REWARD AND LEVEL OF ASPIRATION ON AN EDUCATIONAL TASK WITH CHILDREN IDENTIFIED BY A PROBLEM BEHAVIOR CHECKLIST

by

Thomas L. Noffsinger

The purpose of this study was to investigate the efficacy of rewards and level of aspiration (LOA) as relevant educational procedures with children classified by a behavior problem checklist.

Efforts on the part of the fields of education, psychiatry, and psychology to classify children with behavior disorders for differential treatment procedures have been ineffective. There is a need for relevant classification systems which can serve as the basis for planning differential educational procedures.

The classification scheme used in this study was the Problem Behavior Checklist which has been factor analyzed to identify clusters of behaviors described as hyperactive-aggressive and anxious-withdrawn. It has been suggested by Quay that hyperactive-aggressive children will respond better to physically stimulating rewards than anxious-withdrawn children. Quay also suggests that anxious-withdrawn children will respond better to verbal reward than hyperactive-aggressive children.

Locke suggests that setting high positive goals may not only be an effective motivation variable, but also a stronger motivation than monetary rewards. He predicts equally high performances regardless of rewards if the subject can explicitly state a high positive LOA.

The subjects for this experiment were 45 boys of average intelligence enrolled in six junior high schools in poverty areas of a large metropolitan school system in the southeastern United States. The subjects were selected from 350 such subjects on the basis of their excess and lack of certain behaviors in the classroom. Three groups of 15 subjects each (hyperactive-aggressive, anxious-withdrawn, and no deviant behaviors) were randomly assigned to three groups of five subjects each and placed in a 3 x 3 Greco-Latin arrangement so that order of LOA and order of reward were counter-balanced.

The first motivation variable, reward, had three dimensions (monetary, verbal, and no apparent reward). The second motivation variable was LOA. This also contained three dimensions (controlled positive LOA, free LOA, and no LOA). A visual tracking task was used as the dependent variable since it was easily quantifiable and simulated an educational situation.

The results showed:

1. There are no significant differences on the visual tracking task between classifications of predominant types of classroom behaviors.
2. Monetary reward does not have a significantly greater effect on the visual tracking scores than verbal reward.
3. The average effect of monetary and verbal rewards is not significantly greater on the visual tracking task than no apparent reward.
4. Verbal reward does not produce significantly greater performance on the visual tracking task for anxious-withdrawn subjects than for hyperactive-aggressive subjects.
5. Monetary reward does not produce significantly greater performance on the visual tracking task for the hyperactive-aggressive subjects than for anxious-withdrawn subjects.
6. Scores in the particular treatment situation of no stated LOA and verbal reward were not higher for anxious-withdrawn subjects than for hyperactive-aggressive subjects.
7. Scores in the particular treatment situation of no stated LOA and monetary reward were not higher for hyperactive-aggressive subjects than for anxious-

withdrawn subjects.

8. The effect of positively controlled LOA on the visual tracking scores was significantly greater than the effect of free LOA.

9. The effect of no stated LOA on the visual tracking scores was not significantly less than the average effect of controlled positive LOA and free LOA.

The results were interpreted to show little support for the validity of the Behavior Problem Checklist as an instrument for classification within homogeneous groups for differential educational procedures.

The results showed little support for Quay's suggestion that children with different deviant behaviors respond differently to motivation than children with no deviant behaviors.

The results offered some support to Locke's suggestion that specific positive goal setting is a valid motivation variable.

EMPIRICAL STUDY OF INSTRUCTIONAL MATERIALS EVALUATION IN SPECIAL EDUCATION

by

S. Joseph Levine

The term "instructional materials" once elicited a picture of a blackboard, a record player, and possibly an opaque projector. Today, this term has come to mean much more. A quick trip through the exhibits area at this convention uncovers a wealth of instructional materials that are available to the classroom teacher. In fact, it could almost be called a "jungle" of instructional materials. Jungle is a highly descriptive word. It brings to mind such thoughts as being lost, engulfed, closed in, and very threatened. How can we make this "jungle" meaningful?

This paper is concerned with one attempt to comprehend the "jungle." It is concerned with the evaluation of instructional materials--evaluation as a tool for providing today's teacher with a means of getting into the jungle; finding particular materials to meet her needs; and bringing them into the classroom and making effective use of them.

The Problem

The Regional Instructional Materials Center for Handicapped Children and Youth at Michigan State University has cosponsored a series of studies with the Office of the State Superintendent of Public Instruction in Indiana. These studies are aimed at assessing the potentialities of practitioners as evaluators of instructional materials.

The topic of materials evaluation has gained considerable impetus during the last few years. More and more projects are being undertaken to examine some of the many problems associated with evaluation. Some projects have focused on an informal approach, requesting teachers to write a short descriptive statement about a material they have seen or used. Checklists are being developed to guide these teachers in their evaluation. The question arises--How were the criteria for the checklist developed? In many instances they have been developed in a purely intuitive manner. A second question might be, Is it possible to design an inclusive form or checklist that would cover all of the necessary evaluative aspects of a material and its use?

In other instances, experts have met to devise sets of criteria for evaluating. These criteria are usually based on more or less well defined learning theory and are concerned with what a particular material should accomplish. Extensive laboratory or field testing of a material is then conducted to find out if it does accomplish what it is supposed to. "Pass or fail" in this evaluative concept is often dependent upon how the teacher uses the material. If the teacher does not use the material to its fullest potential in relation to its inherent "learning qualities," it will be less than ideally effective. Herein is a serious but not well recognized problem of evaluation: Do existing evaluative schemes fully take into account the wise range of teaching styles?

As yet there is no basis for proposing some "right" approach that evaluation should take. Of more importance to the classroom teacher, there is no available catalog of evaluations to cover the many materials on the commercial market. Obviously, some sort of sound common approach to evaluation needs to be developed before such a library of evaluations can be produced. It is possible, however, to consider both the approach to evaluation and the product of evaluation simultaneously. It is this dual approach that has been tried in this study: the development of a library of material evaluations and the systematic study of the evaluation process.

The Evaluation Institute

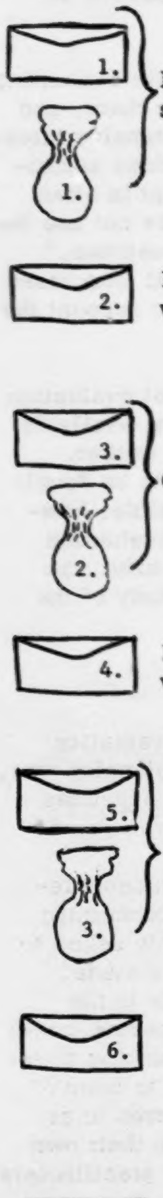
To effectively attack both questions it was decided to hold an Evaluation Institute. The Institute would be built around a game structure. Our planning was, through the use of the game approach, to avoid the usual lectures and speeches and provide a teacher oriented activity with high motivation for the participants.

Selected teachers in a single areas of special education, the educable retarded, were invited to attend a 3 day meeting. No prior information concerning the design of the Institute was provided the teachers. They were merely asked to participate in a state sponsored function. Great care was taken at this stage. We did not want the teachers attempting to organize their thinking prior to the Institute. Such organization is usually concerned with attempting to second guess what will be discussed. In other words, we didn't want the teachers asking themselves, "What will they want me to say?" or "What should I be ready to learn?" Instead, our planning called for a series of activities, previously referred to as games, that would allow the teachers to organize their own thoughts in their own way as a part of the procedure. We were concerned with what they as practitioners felt were the important aspects of evaluation.

Subgroup activity (game). The group members, 16 in number, were randomly assigned to 4 member teams. Each team was given a packet of envelopes and seated around its own table on which were three large sacks. Their instructions were to open envelope #1 and proceed as directed (see Figure 1).

Envelope #1 told them to open their own sack #1 and to discuss the instructional material contained therein. Once it was discussed, they were to list 10 strengths or weaknesses of the instructional material. After they finished this step, they went on to envelope #2 which told them not to open sack #2, but instead to list 12 questions that they felt should be asked to probe the strengths and weak-

FIG. 1. Sequence of actions for subgroup activity.



Discuss strengths and/or weaknesses of the instructional material in sack #1. List 10 strengths and/or weaknesses of this material.

List 12 questions that should be asked to probe the strengths and/or weaknesses of the unknown material in sack #2.

Open sack #2 and answer your 12 questions.

List 10 questions that should be asked to probe the strengths and/or weaknesses of the unknown material in sack #3.

Open sack #3 and answer your 10 questions.

List all of the questions that should be asked to probe the strengths and/or weaknesses of an instructional material.

Rate your questions on a three point scale.

1 = Exceptionally important

2 = Important

3 = Moderately important

nesses of the unknown material in the second sack, whatever it might be. Envelope #3 directed them to open the sack and to answer their own questions about the material they would find.

Envelope #4 then asked for a list of 10 questions to be asked of another unknown material in the third sack, and envelope #5 directed them to open sack #3 and answer their questions, thus again using prestructured evaluation questions to assess a "new " material.

Finally, envelope #6 asked them to construct a listing of all of the questions that they had learned were important to probe the strengths and weaknesses of a material, and envelope #7 requested that they rate the items on a three point scale in regards to their importance.

In setting up this activity we were concerned with finding out (a) if different types of materials might suggest different evaluative criteria, (b) what evaluative criteria are important to the practitioner through the investigation of the dynamics of systematic development, and (c) the effect of such a game based activity as a sensitizing device, making the teacher cognizant of the many questions that must be asked when considering evaluation. The activity proved beneficial in all areas.

To assess the effect of different types of material on the development of criteria, we devised a matrix whereby two of the groups first investigated a material categorized as "hardware" (Language Master and Audio Flashcard), and two of the groups began with a material categorized as "software" (workbook, reader, etc.) (see Figure 2). This aspect of the study showed that there were no great differences in criteria that were developed through exposure to hardware and software versus exposure to software alone.

All four subgroups identified evaluative criteria that were later classified according to nine general headings. Of the nine general headings (How is the material used? What teacher preparation is necessary? etc.) three of the subgroups identified all nine and one identified seven.

Criteria that was most frequently identified by the subgroups included the cost of the material, individual or group use, the type of child that it can be used with, and whether it contains student appeal.

If the success of an activity can be judged by the amount of verbalization it has provoked, this activity was a success! The informal discussions that had preceded the activity turned to strong and sometimes heated debate concerning what items should be included or excluded in their lists of strengths and weaknesses of a particular material. It is interesting to note that at this stage the teachers were not yet using the word "evaluation." They instead were concerned with discussing particular materials and whether or not they could be used successfully with their students.

Discussion

The second session of the Evaluation Institute began with a discussion period. The participants welcomed the opportunity to share their individual reactions to the game activity. Copies of each subgroup's final list of questions were distributed and comparisons were made. The topic of evaluation was introduced and the teachers were instructed to return home and think about possible formats that might be developed for recording and utilizing this information in actually evaluating an instructional material.

	Sack #1	Sack #2	Sack #3
Group 1	Language Master (Hardware)	How to Hold Your Job (Software)	Peabody Language Development Kit 1 (Software)
Group 2	Audio Flashcard (Hardware)	How to Hold Your Job (Software)	KELP Kit (Software)
Group 3	Mixie the Pixie (Software)	Matrix Games (Software)	KELP Kit (Software)
Group 4	Fairbanks-Robinson Program/1 (Software)	Matrix Games (Software)	Peabody Language Development Kit 1 (Software)

FIG. 2. Instructional materials used in subgroup activity.

Development of an Evaluation Form

The third session was devoted to developing such a form (see Appendix II A). In two stages, the group first identified those aspects of evaluation that they now felt should be included in a form. Then they ordered the questions and decided on an appropriate format for each. The Evaluation Form was then duplicated and copies made available to each participant.

Using the Evaluation Form

The fourth session of the Institute allowed the teachers to evaluate a large number of materials that were provided. Their evaluations were written on the forms that they had developed. Certain of the materials were earmarked for evaluating by more than one evaluator. Later analysis showed that there were no great differences between evaluators utilizing the same format for evaluating a material. Of the differences that occurred, the primary one was due to the individual evaluator's particular teaching assignment. A junior high school teacher might find different value in a material than an elementary school teacher. As a group, however, teachers of the same level identified similar values.

Modification and Revision of the Evaluation Form

Finally, the fifth session allowed the teachers to modify or change their Evaluation Form as an outcome of their evaluating experience (see Appendix II B). The only change was the elimination of one minor subitem and the modification of some of the modes used for recording information (using checks rather than circling an item).

An Ongoing Evaluation Group

A recurring question throughout the Institute was the artificial environment in which the participants were doing the evaluating. Obviously a truer picture of a material could be drawn from actual classroom use. It was then decided that classroom evaluation would be undertaken. In this way the group could empirically test the instrument that they had developed. To best accomplish this an organizational framework was established from an ongoing evaluation group--the Evaluation Network of Indiana Teachers. Upon returning to their classrooms, each member would evaluate at least one new material on the Evaluation Form. Particular attention would be paid to the utilization of the form and whether or not it provided sufficient latitude and specificity to make the evaluation meaningful. Completed evaluations would then be collected and circulated to all members of the group.

Followup Meetings

Two followup meetings were later held with the group. The first was held after a month and a half of using the form, and the second occurred some 4 months after that.

At the first followup meeting the topic of discussion was the effectiveness of their Evaluation Form. The group was again subdivided into four member teams and each participant instructed to write out one change that they felt should be made in the form. These changes were then collected and redistributed to different individuals. Each teacher was then asked to make a one minute presentation to his subgroup stressing why the change noted on the piece of paper he now held should be incorporated in the Evaluation Form. The subgroups then voted on the presentations they had heard and the four "winners" were presented to the total group. The group then acted on the changes, incorporating those that they felt were necessary.

The primary concern of the group at this followup meeting was that the Evaluation Form was too limiting in most of the items. Many of the items were of a checklist nature and it was felt that they were not inclusive enough. To make the checklists more inclusive, however, would yield a form that would be almost unmanageable. Instead, the group decided to eliminate most of the checklists and leave the space blank for the evaluator to enter the pertinent information. With the distinct possibility that some information would be accidentally omitted, a thesaurus of key words was developed to assist the evaluator. This Evaluator's Guide (see Appendix III) consists of a page for each numbered question on the Evaluation Form. On each page are listings of words that might stimulate the evaluator to think of other aspects of the material. The evaluator would first fill out the form, then consult the Guide for each question to see if the answer should or could be expanded. The Evaluator's Guide proved to be an excellent addition. It was a constant reminder of the Institute and the many aspects of evaluation.

The second followup meeting discussed the format that should be used for disseminating the finished evaluations. The battle was only half won if teachers would not take the time to read the resultant evaluations. The concern of the group was that the information should be related in no more than one page, and it should be attractive enough to invite perusal.

A unique publication was decided upon. It was a two part publication consisting of a number of printed pages and a clear acetate overlay. The acetate overlay, printed in red ink, contained all of the questions from the Evaluation Form. It did not contain, however, any of the information entered by the evaluator. This information, the actual evaluation, was printed on regular paper. Since it only contained answers and no questions, it could be easily scanned by a reader. The reader would glance through the printed pages looking for evaluations of materials that looked interesting. When one is identified, the acetate overlay is placed over the printed page and the complete report, questions and answers, is read.

Conclusion

An Evaluation Institute such as the one described in this paper can provide a needed look at a practitioner based system for evaluating instructional materials. Certainly there are many other approaches and techniques that can and should be tried. The case reported here is a beginning. It puts the focus on the shoulders of the classroom teacher. The classroom teacher is the developer of the evaluative criteria, is the evaluator of the material, develops the vehicle for dissemination, and, finally, reads the completed evaluation. All four are necessary aspects for a total approach towards evaluation.

Through this study we have learned a number of interesting things. Given the structuring and motivation of a gamelike atmosphere, teachers can provide a set of criteria that is meaningful to them. There seems to be a good deal of agreement amongst the teachers used in this first study concerning this criteria. Though this does not imply that the criteria developed by these teachers are those that should be used, it does suggest an initial set that will be further explored in future studies of this nature.

The conclusion of this experience is that teachers do possess an understanding of what are the important aspects of evaluation when concerned with instructional materials. The use of a gamelike situation allowed the participants to structure their own thinking within an interesting setting. The result was the systematic development of a set of evaluative criteria that possessed meaning for the teachers. By treating it as a game, the usual semantic problems associated with a word as strong as "evaluation" were avoided. The teachers were dealing with a familiar topic. They were discussing the strengths and weaknesses of a material in much the same manner as they do over a cup of coffee in the teachers lounge. The addition of the sealed envelopes provided just enough suspense to keep the group highly motivated in what could potentially be an exceedingly boring task.

The study indicated that an inclusive form for evaluating different types of instructional materials is feasible. The approach suggested relies upon two facets to make this possible. First, that the teachers be made cognizant of the parameters of evaluation and the behaviors necessary for evaluating materials. Secondly, that a vehicle be provided for the continual reexposure of the evaluator to these parameters.

This study should not be misunderstood as a critique to the development and use of highly sophisticated evaluation instruments. It does suggest, though, that the needs of the classroom teacher do not necessarily require the development of such instruments. A highly sophisticated instrument has value as a yardstick for material development and revision. This study suggests that a teacher developed evaluation instrument can be effectively utilized for the recording and dissemination of information about a material, information that is being urgently requested by classroom teachers.

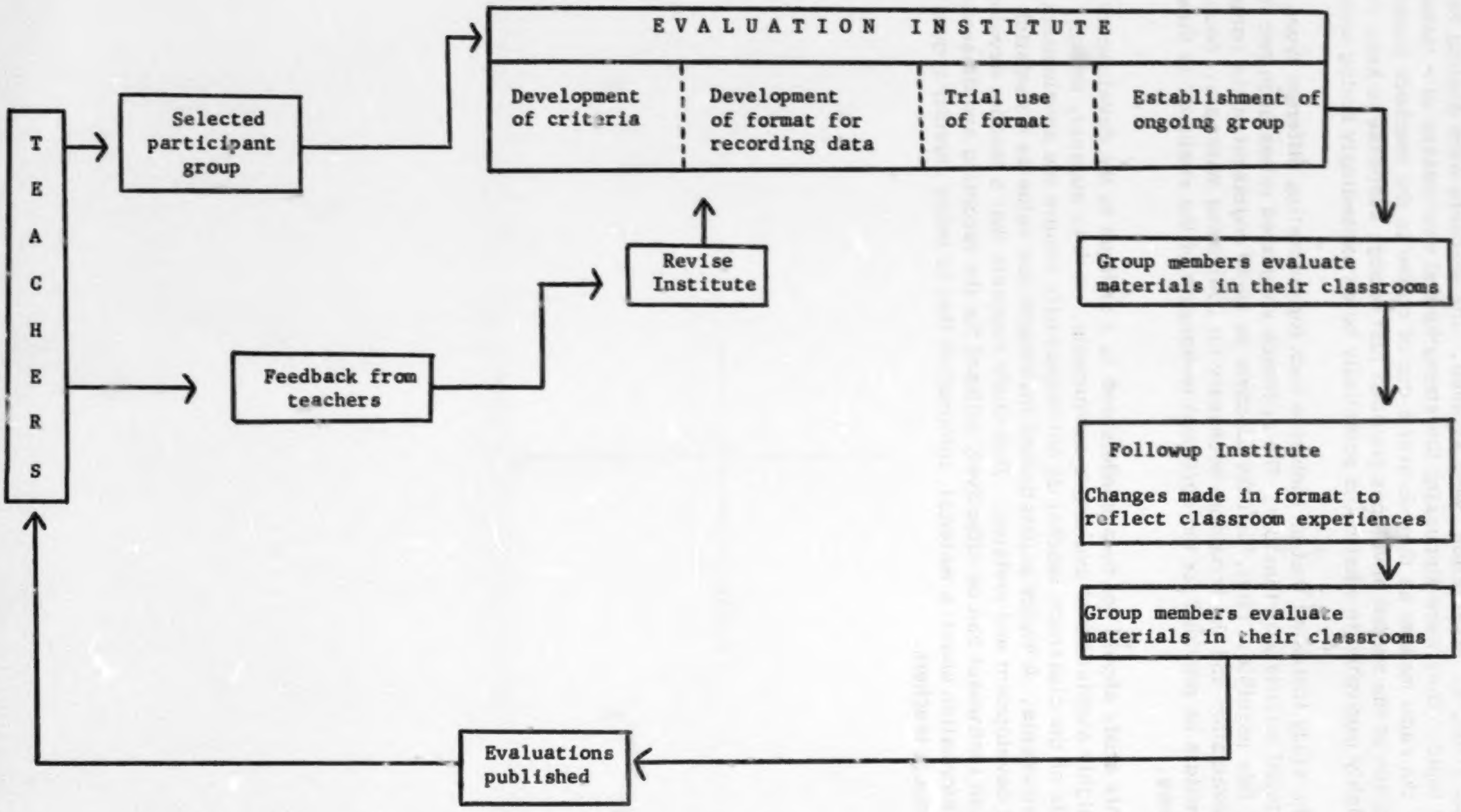

EVALUATION INSTITUTE
Development of criteria
Development of format for recording data
Trial use of format
Establishment of ongoing group
TEACHERS
Selected participant group
Feedback from teachers
Revise Institute
Group members evaluate materials in their classrooms
Followup Institute
Changes made in format to reflect classroom experiences
Group members evaluate materials in their classrooms
Evaluations published

FIG. 3 Evaluation Network of Indiana Teachers.

APPENDIX I

Development of Evaluative Criteria During Subgroup Activity

GROUP I

Envelope #2	Envelope #4	Envelope #6	Final Criteria developed by total group
			Developmental information
What area of instruction	What subject matter is covered		Contents (subject area? accurate?)
What age levels What senses are used Does it provide repetition Has it been used successfully	What mental age Is vocabulary simplified Will it develop verbal or performance skills	Does it aid in motor devel. Can it be used with physical disabilities Does it develop serial competencies Does it develop self-reliance	How is it used?
Is cost justified			Cost (Justified?)
Is it durable Is it readily accessible			Physical characteristics (Durable? reusable? replaceable parts? Portable? Easy to use?
Used individually Used in group Used without supervision	Used individually Used in group Used without supervision	Used individually Used in group Used without supervision	Teaching procedure
			Teacher preparation (Manual available? Manual adequate? Training necessary? Pupil progress reports
Does it appeal to the interests of the child	Does it appeal to the retarded child	Does it appeal to the retarded child	Pupil reaction (attractive? hold interest?)

GROUP II

Envelope #2	Envelope #4	Envelope #6	Final criteria developed by total group
	What is the rational	What is the rationale Has it been proven effective	Developmental information
Does it apply to everyday life		Can child use information in everyday life	Contents (subject area? Accurate?)
What grade level What are uses What socio-economic level	Is usable with various grade levels Does it meet students growing needs	What level Can it be used with the retarded child Does it meet students growing needs	How is it used?
What is the cost	What is the cost	What is the cost	Cost (Justified?)
Is it reusable Is it easy to manipulate What are quality of contents	Is it readily available Is it easily movable Is it durable Are there replaceable parts	Is it durable	Physical characteristics (Durable? Reusable? Replaceable Parts? Portable? Easy to use?)
		Do results justify time spent in using	Teaching procedure
Is it teacher motivational		Can I present material effectively	Teacher preparation (Manual available? Manual adequate? Training necessary? Pupil progress reports
Does it create interest	Does it hold interest	Does it appeal to children	Pupil reaction (Attractive? Hold interest?)

GROUP III

Envelope #2	Envelope #4	Envelope #6	Final criteria developed by total group
Were special educators involved in production	Are authors qualified	Are authors qualified	Developmental information
	Does it include more than one subject area	Does it include a wide subject area	Contents (Subject area? Accurate?)
Is it multi-level Does it meet student needs Does it fit students achievement level	Does it have limited usefulness Is it suitable for brain damaged	Is it multi-useful Is it multi-level Is it suitable for brain damaged Does it help child adjust to society What are objectives and purposes	How is it used?
Is it reasonable priced	Is priced comparably to other materials	Is it reasonable priced	Cost (Justified?)
Is it durable Is it easy to use Is it cluttered	Is it sturdy	Is it durable Is it easy to use	Physical characteristics (Durable? Reusable? Replaceable parts? Portable? Easy to use?)
Used individually Used in group Is it supplementary or a unit in itself	Used individually Used in group Is it supplementary or a unit in itself	Used individually Used in group Is it supplementary or a unit in itself Is it diagnostic Is it a unique approach	Teaching procedure
Is manual available	How extensive is manual	Is manual specific Is there a method for student evaluation	Teacher preparation (Manual available? Manual adequate? Training necessary? Pupil progress reports?
Does it have a high interest level	Does it have a high interest level	Does it have attractive format	Pupil reaction (Attractive, Hold interest?)

GROUP IV

Envelope #2	Envelope #4	Envelope #6	Final criteria developed by total group
		Purpose for developing	Developmental information
		Are contents valid and reliable Is it comprehensible by students	Contents (subject area?Accurate?)
What age level Is it for multiply handicapped Does it stimulate all sensory modalities Does it meet teacher needs	Is it multi-purpose Does it meet teacher needs	Is it multi-purpose What are the objectives for use Is it adequate for use Does it have limited use	How is it used?
Is it expensive	Is it expensive	Is it within budget	Cost (Justified?)
Is it durable Is it awkward to manipulate	Is it durable Is it washable Is it reusable Is it portable Is it repairable	Is it durable Is it easy to manipulate Can it be duplicated Are there replaceable parts	Physical characteristics (Durable? Reusable? Replaceable parts? Portable? Easy to use?)
Is it diagnostic	Is it diagnostic Used individually Used in group		Teaching procedure
	Is it attractive to teacher	Is it of interest to teacher	Teacher preparation (Manual available? Manual adequate? Training necessary? Pupil progress reports
Is it colorful Does it arouse interest	Is it attractive	Is it attractive Does it hold student interest	Pupil reaction (Attractive? Hold interest?)

APPENDIX II

EVALUATION FORMS

A. Original Form

EVALUATION OF AN INSTRUCTIONAL MATERIAL FOR THE EDUCABLE MENTALLY RETARDED

1. Trade name of item:

2. Publisher or producer's name and address:

3. Copyright or production date, if given:

4. Developmental information: Not Available

4a. Author ____________________ ______

4b. Where developed ____________________ ______

4c. Why developed ____________________ ______

4d. How developed ____________________ ______

5. Evaluation setting:

5a. Level (circle one) Preprimary Primary Intermediate Junior High Senior High

5b. Setting (circle one) Rural Urban Other (Specify) ______

6. Description of the item:

7. How did you use the item:

Is this the use the manufacturer recommended? Yes _____ No _____

8. Cost: $ __________

8a. Does its teaching value or effectiveness justify its cost? Yes ___ No___

9. Physical Characteristics:

9a. Is it adequately durable? Yes _____ No _____

9b. Can it be reused? Yes _____ No _____

9c. Are replacement parts available? Yes _____ No _____

9d. Is it portable? Yes _____ No _____

9e. Is it easy to use? Yes _____ No _____

10. **Teaching Procedure:**

10a. Supervised ________ Independent Activity ________

10b. Individual ________ Group ________

11. **Teacher Preparation:**

11a. Is a teacher manual available? Yes _____ No _____

11b. If available, is it adequate? Yes _____ No _____

11c. Would some special training be advisable in order to make effective use of it? Very necessary _______ Helpful _____

11d. Are pupil progress reports provided? Yes _____ No _____

12. **Contents:**

12a. Remedial _____ Developmental _____

12b. Factually accurate? Yes _____ No _____

12c. Subject matter area(s) ________________

13. **Pupil reaction:**

13a. Attractive? Yes _____ No _____

13b. Does it consistently hold the interest level over a period of time? Yes _____ No _____

14. **Comments:**

B. First Revision

EVALUATION OF AN INSTRUCTIONAL MATERIAL
FOR THE EDUCABLE MENTALLY RETARDED

1. Trade name of item:

2. Publisher or producer's name and address:

3. Copyright or production date, if given:

4. Developmental information: Not Available

4a. Author______________________ ____________

4b. Where developed ______________________ ____________

4c. Why developed ______________________ ____________

4d. How developed ______________________ ____________

5. Evaluation setting (check ✓ appropriate spaces):

5a. Level __Preprimary __Primary __Intermediate __Junior H.S. __Senior H.S.

5b. Setting __Rural __Urban __Other (specify) ______________

6. Description of the item:

7. Describe briefly how you used the item (basal, supplementary, remedial, developmental, etc.):

8. Is this the use the manufacturer recommends? Yes___ No ___
Cost $________

8a. Does its teaching value or effectiveness justify its cost? Yes___No___

9. Physical characteristics:

9a. Is it adequately durable? ___Yes ___No

9b. Can it be reused? ___Yes ___No

9c. Are replacement parts available? ___Yes ___No __Information not available

9d. Is it portable? ___Yes ___No

9e. Is it easy to use? ___Yes ___No

10. Teaching procedure (check ✓ appropriate spaces):

10a. Supervised___ Independent Activity___

10b. Individual___ Group___

11. Teacher preparation:

11a. Is a teacher manual available? Yes___ No___

11b. If available, is it adequate? Yes___ No ___

11c. Would some special training be advisable in order to make effective use of it?

Very necessary ___ Helpful ___ Unnecessary ___

11d. Are pupil progress reports provided? Yes___ No ___

12. Contents:

12a. Subject matter area(s) (specify): ______________________

12b. Factually accurate? Yes ___ No ___

13. Pupil reaction:

13a. Attractive? Yes___ No ___

13b. Does it consistently hold the interest level over a period of time?
Yes ___ No ___

14. Comments (strengths, weaknesses, etc. not covered in the above):

Evaluator ______________________

Date ______________________

C. Second Revision

EVALUATION OF AN INSTRUCTIONAL MATERIAL FOR THE EDUCABLE MENTALLY RETARDED

1. **Trade name of item:**

2. **Publisher or producer's name and address:**

3. **Copyright or production date, if given:**

4. **Developmental information:** **Not Available**

    4a. **Author** ____________________ ________

    4b. **Where developed** ____________________ ________

    4c. **Why developed** ____________________ ________

    ____

5. **Evaluation setting:**

6. **Contents:**

    6a. **Subject matter area(s):** ____________________

    6b. **Factually accurate? Yes ___ No ___**

7. **Description of the item:**

8. **Describe how you used the item:**

    Is this the use the manufacturer recommends? Yes ___ No ___

9. **Cost $ ________**

    9a. **Does its teaching value or effectiveness justify its cost? Yes ___ No ___**

10. Physical characteristics?

10a. Is it adequately durable? Yes___ No ___

10b. Can it be reused? Yes___ No ___

10c. Are replacement parts available? Yes___ No ___ Information not available ___

10d. Is it portable? Yes ___ No ___

10e. Is it easy to use? Yes___ No ___

11. Teaching procedure:

12. Teacher preparation:

12a. Is a teacher manual available? Yes___ No ___

12b. If available, is it adequate? Yes ___ No ___

12c. Would some special teacher training be advisable in order to make effective use of it?

Very necessary ___ Helpful ___ Unnecessary ___

12d. Are pupil progress reports provided? Yes___ No ___

13. Pupil reaction:

13a. Attractive? Yes___ No ___

13b. Does it consistently hold the interest level over a period of time? Yes___ No ___

14. Comments:

Evaluator ______________________

Date ______________________

APPENDIX III

EVALUATOR'S GUIDE

Note--The Evaluator's Guide was designed for use with second revision of the Evaluation Form.

EVALUATOR GUIDE

INDIANA EVALUATION GROUP

This Guide is designed to assist you in filling out the Evaluation Form. The number on each page refers to the same numbered question on the Evaluation form.

To make the best use of this guide:

(1) Fill out the Evaluation Form WITHOUT consulting the guide. When the form is completed,

(2) Check each question with the guide to see if there is other information that you would like to include on the Evaluation Form.

(3) Add the new information to the Evaluation Form. You should now have a comprehensive evaluation of an instructional material.

Suggestions for writing evaluations:

1. Enter ALL information. If a question must be left blank because of insufficient information, circle that blank.
2. Be CONCISE yet CLEAR. Include only that information that you feel will be of use to another teacher.
3. Be CRITICAL yet FAIR. Mention the shortcomings as well as the good features.
4. When applicable, use the FIRST PERSON. "I fell that the XYZ Method is..." or, "I would suggest..."

STUDENTS

Ability
Academic level
Active/passive
Age
Grade level
Handicap
Itinerant
Number in class
Sex

SCHOOL

Inner City
Institution
Modern
Parochial
Public
Rural
Urban

METHODS

Grouping
Non-graded
One-to-one
Self-contained
Team Teaching
Traditional

(Use this space for writing a clear description of your evaluation setting. This can then be copied directly on to the Evaluation Form.)

5 Evaluation Setting 5

Arithmetic
Art
Crafts
Geography
Handwriting
History
Homemaking
Language Development
Learning Skills
Literature
Music
Penmanship
Phonics
Reading
Recreation
Science
Speech
Spelling
Work-Study
Writing

6a Subject Matter 6a

If you checked NO, include a short explanation;

Distorted
Irrelevant
Up-to-date
Timely
Errors
Misprint
Incorrect

6b Factually Accurate 6b

Aid
Book
Bulky
Collection
Color
Device
Drawings
Equipment
Game
Tape Recordings
Additional equipment needed
Part of a larger unit
Film
Film Strip
Illustrations
Kit
Large
Manipulative
Many Parts
Models
Movie (sound)
Print
Programmed
Record
Transparency
Workbook
Work Sheets
Can be duplicated
Takes up room
Easy to carry

7 Description of the Item 7

Adaptations
Basal
Behavior
Characteristics
Comprehension
Creative
Daily
Developmental
Discrimination
Discussion
Enrichment
Feedback
Broup
Independent
Individual
Kinesthetic
Manipulative
Measurement
Memory
Mobility
Monthly
Motivation
Nonverbal
Orientation
Perceptual
Play
Rhythm
Remedial
Self-concept
Stimulate
Structure
Supervised
Supplementary
Unique
Verbal
Introductory (to what)
Follow-up (to what)
Motor Coordination

8 Describe how you used the item 8

This item is IMPORTANT. If you check NO, make sure you have clarified "why" in other section of the evaluation.

9a Is Cost Justified 9a

Use a short statement to clarify if necessary.

10 Physical Characteristics 10

According to directions
Alone
Daily
Group
Individual
In unique way (explain)
Monthly
One-to-one
Supervised
Unsupervised
Weekly
With other materials

11 Teaching Procedure 11

If NO, would a teacher manual be helpful?

12a Teacher Manual Available 12a

Boring
Enthusiasm
High Interest
Low Interest
Motivation
Socially appropriate

13 Pupil Reaction 13

Adjustment
Aggressive
Appreciation
Aptitude
Differences
Endurance
Experience level
Functional
Goal
Growth
Parents
Peers
Reading level
Sensory
Sex
Skill
Technical
Time consuming
Vocabulary level
Must be used in conjunction with other materials
(which ones)
Must study manual before each use

14 Comments 14

APPENDIX IV

Ratings of Evaluations

Note: The evaluations that are rated herein were completed on the first revision of the Evaluation Form (Appendix IIB). The primary purpose of this study was to provide feedback to the members of the evaluation group.

12345678

Rating Sheet

The attached Evaluation of an Instructional Material (next page) has been completed by a teacher of educationally handicapped children. The teacher used the material in the classroom for approximately one month.

Now, assuming that you are also a classroom teacher of educationally handicapped children -- does the evaluation "tell you anything?" Using the checklist below, indicate your reactions to 1) the evaluation form, and 2) the information contained on it.

I. Evaluation Form — Yes No ? (please)

1. Are the categories and questions CLEAR? (1)___ ___ ___
2. Should other questions be ADDED to the form? (2)___ ___ ___

Which ones? ______________________________

____

3. Should some questions be DELETED? (3)___ ___ ___

Which ones?______________________________

____

II. Information on form

4. Has the evaluator COMPLETED all questions? (4)___ ___ ___
5. Are the comments CLEAR? (5)___ ___ ___
6. Is further CLARIFICATION (illustration) needed? (6)___ ___ ___
7. Is the information useful in assisting you to decide whether you would like to use the material in your classroom? (7)___ ___ ___
8. How could the evaluator IMPROVE the evaluation?________________

____

____

9. Other comments?______________________________

____

10. Current STATUS?
___Freshman
___Sophomore
___Junior
___Senior
___Graduate

11. Prior teaching EXPERIENCE?
___NO classroom experience of more than one day.
___Student Teaching (normal)
___Student Teacher (handicapped)
___Classroom Teacher(elementary)
___Classroom Teacher(secondary)
___Classroom Teacher(handicapped)
___Other classroom experience (more than one day)
1.
2.
3.
4.
5.

12. How familiar are you with this material?
___Have NEVER seen or heard about
___Have seen &/Or heard about (not used personally)
___Have used

13.

____
(name)

____
(date)

Rating Sheet

I. Evaluation Form

1. Are the categories and questions clear? 68 Yes 5 No ___ ?

2. Should other questions be added to the form? 23 Yes 48 No 2 ?

3. Should some questions be deleted? 4 Yes 62 No 7 ?

II. Information on form

4. All questions completed? 41 Yes 31 No 1 ?

5. Are the comments clear? 48 Yes 20 No 5 ?

6. Is further clarification needed? 38 Yes 33 No 2 ?

7. Is the information useful? 50 Yes 16 No 7 ?

Raters: (all are special education majors at Michigan State University)

Freshmen	16
Sophomores	3
Juniors	19
Seniors	30
Graduates	5
	73

No teaching experience	44
Prior teaching experience	29

ABSTRACT

IMPROVING MONGOLOID COORDINATION USING DOMAN-DELACATO PATTERNING AND SOCIAL REINFORCED INSTRUCTION

by

H.D. Fredericks

Seventy-two children with Down's Syndrome (mongolism), ages 7 to 12, who were patients at Fairview Hospital and Training Center, Salem, Oregon, were divided into three groups by random assignments within sex and age groupings.

The first group was administered Doman-Delacato patterning treatment four times a day, 15 minutes at a time for a period of 9 weeks. They were also encouraged to do extensive crawling and to utilize a crawl box. The second group, for the same period of time, was administered a behavior modification treatment in which they were required to perform various motor activites which utilized principles of shaping, reverse chaining, and social reinforcement. The final group was a control group. Half of the 24 subjects in each group received pretests, biweekly tests, and posttests. The remaining subjects in each group received only the posttest. In addition a 3 month followup test was administered to all 72 subjects.

Two evaluation scales were utilized, the Doman-Delacato Profile and a modified version of the Lincoln-Oseretsky Motor Development Scale. The correlation between these two scales for pretest scores ($\underline{N} = 36$) was .77; for posttest scores for subjects not receiving prior testing ($\underline{N} = 36$) was .71.

Although the Doman-Delacato Profile score means increased during the experimental period for all groups, the results indicated no significant Profile score differences between the control subjects and those receiving either the Doman-Delacato patterning and the behavior modification treatment. Nor were there differences between Profile scores for these latter two groups.

Mean postscores increased for all groups on the modified Lincoln-Oseretsky Motor Development Scale. Significant differences at the .05 level were found favoring the behavior modification treatment subjects over the control subjects. Although slightly higher Oseretsky scores were found favoring the Doman-Delacato patterning subjects over the control subjects, this difference was not significant.

Comparisons between subjects regularly tested and those receiving only the posttest revealed no test effects for either evaluation scale. Examination of the followup test data revealed a considerable stability of the coordination scores over the 3 month postexperimental period. Intergroup comparisons for the followup data resulted in the same pattern of significance and nonsignificance obtained for the posttest data.

Two general conclusions may be drawn from the study: (a) the Doman-Delacato Patterning method as a technique for improving motor coordination fails to yield superior improvement when contrasted to an experimental behavior modification procedure and/or to a no treatment group; and (b) motor coordination of severely retarded children can be improved by the application of behavior modification principles in teaching selected motor skill tasks. The present study falls far short of a systematic, extensive effort at curriculum development. Rather it was

initiated as a "contrast" curriculum. More determined curriculum development may well be expected to yield substantially more efficent motor coordination training procedures.

A LONGITUDINAL STUDY OF DISADVANTAGED CHILDREN WHO PARTICIPATED IN THREE DIFFERENT PRESCHOOL PROGRAMS

by

Merle B. Karnes, James A. Teska, and Audrey S. Hodgins

In the broad social concern with the poor and disadvantaged of our population which has characterized the 1960's, no program has appeared more hopeful than preschool education. Here, if anywhere, it seemed was the point at which the cycle of deprivation might be broken, the predictable sequence of academic failure and early drop out interrupted. The assumption that preschool experience would allow disadvantaged children to compete more favorably in the formal school setting was embodied in federal social policy through the support of Headstart without any real agreement, however, about the specific educational approach most appropriate for this purpose.

This study, then, addresses itself to a longitudinal evaluation of the effectiveness of three preschool interventions in preparing disadvantaged children to function successfully in school. The first intervention was intended to embody the traditionalist point of view: a nursery school experience which worked in conventional ways to improve the personal, social, motor, and general language development of the children followed by a traditional kindergarten under the auspices of the public school. The second approach radically departed from the established point of view: the traditional preschool and the traditional kindergarten were seen as inadequate and inappropriate to the task of insuring the academic competence of the disadvantaged child, and an experimental preschool and an experimental kindergarten were provided. The third approach represented a middle ground: amelioration of deficits related to school inadequacies must begin during the preschool year so that the disadvantaged child may benefit fully from the traditional kindergarten, and a special preschool program was provided. The traditional kindergarten, it was assumed, would then be an appropriate prelude to first grade, and only a one hour supportive program was offered these children the second year.

Methodology

Selection of subjects. The subjects for this study were selected from the preschool population of the economically depressed neighborhoods of Champaign-Urbana, a community of 100,000 in central Illinois. The 1960 Stanford-Binet Intelligence Scale was administered to eligible children who were then stratified on the basis of their intelligence quotients into three groups (IQ scores 100 and above, 90 through 99, and 70 through 89) and assigned to class units (N = 15) in which one-third of each class consisted of children who had scored in the high IQ range; one-third, the middle range, and one-third, the low range. Stratification provided an opportunity to evaluate the effectiveness of the various programs with different ability groups. The mean IQ (approximately 95) of the children placed in these classes was, of course, higher than the mean of children screened.

Class units were examined to assure comparability of sex and race, an approximate ratio of 67 percent Negro and 33 percent Caucasian children, and a ratio of approximately 50 percent male and 50 percent female children. Finally, each class unit was randomly assigned to one of the three intervention programs. During the first year of the study 75 disadvantaged children, five class units of 15 children each, participated. Two class units were assigned to the traditional program, two to the ameliorative program, and one class unit to the direct verbal program. The initial composition of the groups is summarized in Table 1.

Evaluation procedures. Evaluations were made prior to the preschool intervention, at the end of the first and second years of intervention, and at the end of first grade in the following areas:

1. Intellectual functioning as measured by the 1960 Stanford-Binet Individual Intelligence Test, Form L-M.
2. Language development as measured by the Illinois Test of Psycholinguistic Abilities, Experimental Edition, 1961.
3. Visual perception as measured by the Frostig Developmental Test of Visual Perception.

In addition, the Metropolitan Readiness Tests were administered at the end of the preschool and kindergarten years and the California Achievement Tests, at the end of the first grade.

The three programs of classroom intervention. Since the effects of specific classroom interventions were the concern of this study, total impact programs were not considered and variables outside the classroom which may have significantly altered the development of the child were not manipulated. All children were bussed to school and attended daily sessions of two hours and fifteen minutes for approximately seven months. Three teachers were employed for each class unit of 15 children.

The three programs of classroom intervention may be distinguished as follows:

1. Major goals of the traditional preschool were to promote the personal, social, motor, and general language development of the children. Teachers were instructed to capitalize on opportunities for incidental and informal learning, to encourage the children to talk and to ask questions, and to stimulate their interest in the world around them. Music, story, and art activities were scheduled regularly, and special efforts were made to interest the children in books. Indoor and outdoor play were part of the daily routine.

   During the second year of the study the children who had attended the traditional preschool were enrolled in kindergarten solely under the supervision of the public school.

2. In the ameliorative preschool language development was considered to be the critical deficit area for disadvantaged children. Each class unit ($\underline{N} = 15$) was divided into three groups on the basis of Binet IQ with one teacher for each group. The daily schedule focused on three 20 minute learning periods: mathematics concepts, language development and reading readiness, and science-social studies. A large room where the 15 children could gather for group activities was available; however, most of the instruction took place in relatively small cubicles off the main room. Each cubicle contained materials appropriate to one of the three content areas, and each teacher moved from one cubicle to another with her group of five children. Teachers accommodated their teaching

TABLE 1

Initial Group Composition

				Intelligence Strata Means						Race		Sex	
Group	N*	Binet CA	Binet IQ	High	N	Middle	N	Low	N	Caucasian	Negro	M	F
Traditional	25	52.4	94.4	108.6	7	93.9	10	82.6	8	9	16	15	10
Ameliorative	24	52.1	96.2	107.0	8	95.7	9	84.6	7	7	17	11	13
Direct Verbal	10	51.1	96.6	111.0	3	93.5	4	86.3	3	3	7	4	6

*Sixteen children withdrew from the programs before the end of the third year (battery four), and no data for these children are included in this study.

strategy to the performance of the children on battery one tests and incorporated into their lesson plans the various facets of the language process embodied in the Illinois Test of Psycholinguistic Abilities.

Lanugage development received major emphasis throughout the day and especially during the three structured periods. Verbalizations in conjunction with the manipulation of concrete materials were considered to be the most effective means of establishing new language responses. A game format (card packs, lotto games, models and miniatures, sorting, matching, and classifying games) created situations where verbal responses could be made repeatedly in a productive, meaningful context without resorting to rote repetition; often the child could visually and motorically assess the correctness of his thinking before he made an appropriate verbalization. If the child was unable to make a verbal response, the teacher supplied an appropriate model; when he began to initiate such responses, the teacher had opportunity to correct, modify, and expand his verbalizations.

During the second year of the study the children who had attended the ameliorative preschool attended public kindergartens in the morning and participated in an additional one hour supportive program at the research center in the afternoon. This session was divided into two periods--language development/reading readiness and mathematics concepts. This schedule was broken for an occasional field trip or art project, but art, music, and indoor-outdoor play generally were not scheduled. An effort was made to avoid repeating activities which had already been provided in the morning public kindergarten and to emphasize activities directly related to first grade academic success. Because the performance of the ameliorative group on all ITPA subtests had been essentially nondeficit at the time of the post-preschool evaluation, the major emphasis in the supportive kindergarten program was shifted from language development toward academic achievement.

3. Basic to the direct verbal program conducted by Carl Bereiter and Siegfried Engelmann was the assumption that disadvantaged children are adequate in perceptual and motoric skills but inadequate in verbal and abstract skills and, therefore, the appropriate mode for instruction is intensive oral drill in verbal and logical patterns. A deliberate effort was made to minimize the use of visual and manipulative materials. The specific curriculum was developed from a study of task requirements.

The children were divided into three groups of approximately five each, initially on the basis of Stanford-Binet IQ scores but later on the basis of teacher evaluation of the children's ability to learn, retain, and process what was taught. The daily schedule centered around three learning periods: language, arithmetic, and reading.

The general instructional strategy in the three subjects was that of rule followed by application. A verbal formula was learned by rote and then applied to a series of analogous examples of increasing difficulty. Tasks were initially presented in a highly structured form that provided a maximum of syntactical and presentational prompts; then the tasks were systematically "destructured" to remove these prompts and admit the variation in presentation that would be encountered in normal situations.

The language program focused on minimum essentials of language competence. Its objective was a kind of basic English that teachers and child may use in the conduct of elementary education--a basic English which did not embody all the concepts a child should master but provided a medium through which those concepts may be learned. The arithmetic program emphasized a science of counting without reference to phenomena that can be interpreted arithmetically since it was assumed that the disadvantaged child lacks the verbal and logical sophistication necessary to abstract arithmetic principles from everyday experiences. After the initial teaching of counting, arithmetic was taught through equations, emphasizing the idea that any equation could be read as a statement of fact and also as an instruction that told how the fact could be established through a counting operation. The children were taught to read according to a modified Initial Teaching Alphabet. As early as possible, the children were introduced to controlled vocabulary stories written by the reading staff.

According to the research design, children who had attended the direct verbal preschool were not to attend public kindergarten and were to return to the research center the second year for a continuing half day program. At parental insistence or teacher suggestion, however, three of the ten children attended public kindergarten in the morning and the direct verbal program in the afternoon.

The direct verbal program in the second year was an extension of the first year's curriculum, and the children followed the schedule of the previous year, with variations to allow for the nature of more advanced work. The children were grouped by ability for 25 minute instructional periods in language, reading, and arithmetic. The language program included concepts of measure, the formal use of function words, and the vocabulary engendered by a study of the part-whole relationships of over 100 objects. A series of stories was developed to acquaint children with concepts not easily demonstrated in the classroom. The reading method developed at the project for the second year was arranged into a highly systemized program which emphasized necessary reading subskills that disadvantaged children typically do not posses. In arithmetic the children received further work in the curriculum initiated the first year and no significant alterations were made. They continued to use numbers and symbols to work basic arithmetic problems, learned to solve story problems, and were taught algebraic problems.

During the third year of the study children from all intervention programs attended racially integrated first grade classes under the sole supervision of the public school. No further research intervention was provided, and all chidren were given the fourth battery of tests in the late spring.

Results and Discussion

Intellectual functioning. The Binet performances of the three groups were clearly differentiated over the three year period (Table 2 and Figure 1). The performance of the ameliorative and direct verbal groups was significantly superior to that of the traditional group at the end of the preschool year. Initially the IQ scores of one-third of the children in each group placed them in the high stratum, 100 and above. On test two, 92 percent of the children in the ameliorative group and 90 percent of the children in the direct verbal group fell in this stratum while only 48 percent of the children in the traditional group earned such scores. Approximately 80 percent of the children in the direct verbal group and 71 percent of the children in the ameliorative group made gains of ten or more points. Only 40 percent of the children in the traditional group made gains of that magnitude. No child in the direct verbal or ameliorative groups failed to make a gain; 20 percent of the children in the traditional group scored lower on test two than on test one.

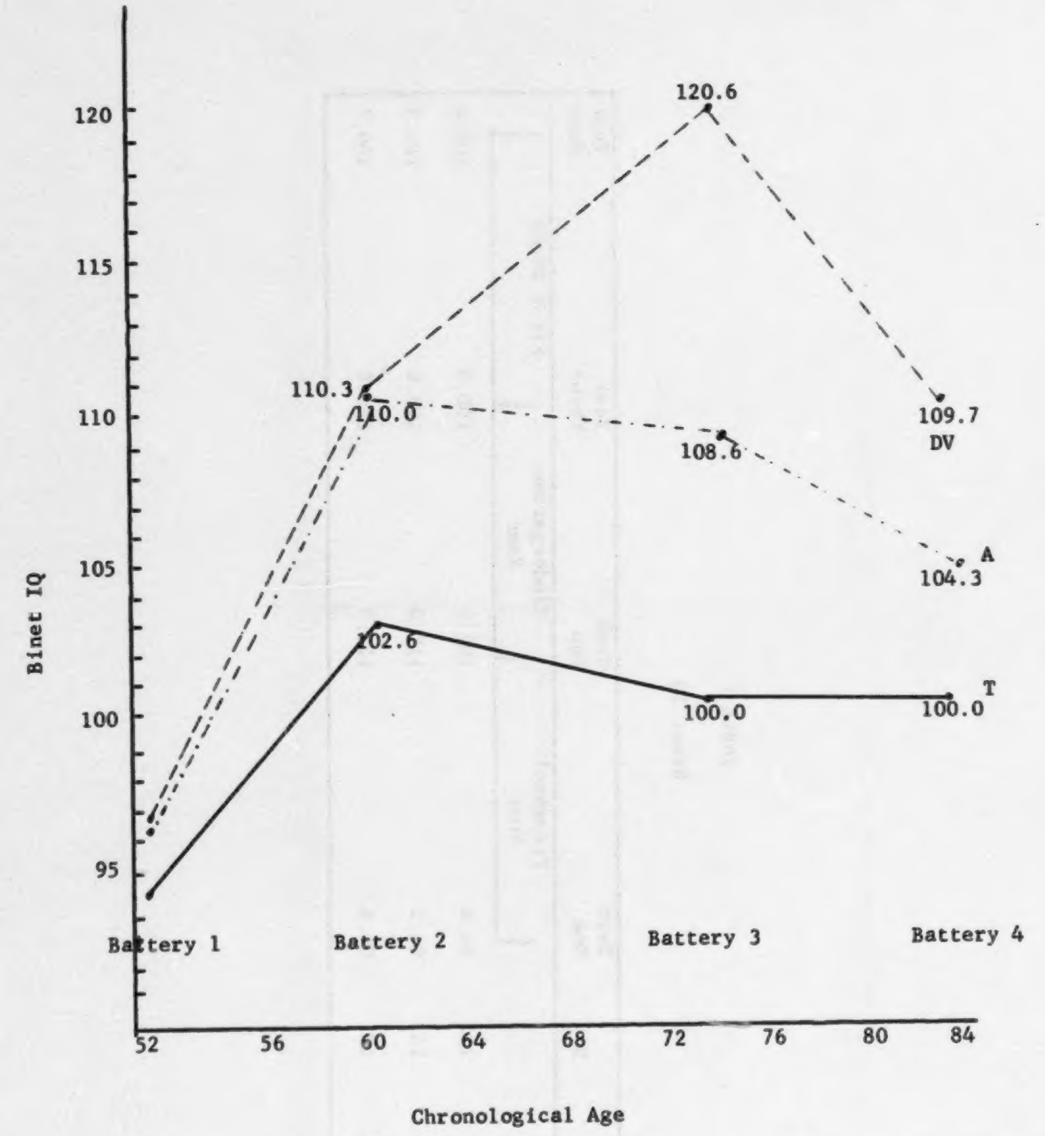
The magnitude and consistency of IQ gains within intervention groups reflect one of the most important findings of the first year of the study: the ameliorative

TABLE 2

Binet IQ

Group	N	Test One		Test Two		Test Three		Test Four
			Preschool Year		Kindergarten Year		First Grade	
Traditional	25	94.4		102.6		100.0		100.0
Ameliorative	24	96.2		110.0		108.6		104.3
Direct Verbal	10	96.6		110.3		120.6		109.7

FIG. 1. Binet IQ--Three Groups for Three Years.



Note: The times of the four batteries are plotted at the mean Binet chronological age of the three groups.

and direct verbal preschools had a positive effect on the IQ score of every child in attendance, and one must conclude that these two programs provided unique opportunities for enhancing the level of intellectual functioning with remarkable consistency. Both programs were predicated upon the active involvement of teacher and child in immediate verbal interactions. In the ameliorative program, the teacher monitored the child's manipulative performances and assessed the adequacy of his verbal responses so that she could alter the learning situation appropriately. It was the function of the teacher to provide situations which required sufficient repetition to establish new verbal responses and to alter the learning task to encompass further cognitive and verbal complexities. The child moved from structured, physical involvement within a meaningful, productive context to independent verbalizations. In the direct verbal program similar results were achieved through intensive verbal and logical oral pattern drill which culminated in highly specific early reading and mathematics curricula. In the traditional program a variety of learning experiences was made available to the children, but their involvement in specific activities was often not required. Although verbal responses were encouraged, they were not insisted upon. Individual children in this program did indeed make gains comparable to those made in the other two programs, but the number of children who made excellent gains in the traditional preschool is overshadowed by the percentage who made minimal gains or regressions.

At the end of the kindergarten year, the Binet performance of the direct verbal group was significantly superior to that of the other two groups. Only the children in the direct verbal group made an additional gain in the second year, a substantial additional 10 points for a total two year gain of 24 points. The other two groups remained relatively unchanged, showing losses less than three points. Although the one hour ameliorative supportive program was unsuccessful in fostering further gains, it may have been responsible for maintaining the relatively large first year gain of this group. Since the first year gain of the ameliorative group was substantially larger than that of the traditional group, a sizable regression might have occurred had these children attended public kindergarten only. The continuing gain demonstrated by the direct verbal group is a clear endorsement for sustained special programing for disadvantaged children.

At the end of the third year of the study, when all children were completing the first grade there were no significant differences among the three groups. The magnitude of the loss (11 points) of the direct verbal group was the major factor in this leveling effect; however, the ameliorative group lost an additional four points (a 6 point loss over the two year period). The mean IQ of the traditional group remained unchanged during the third year.

The distribution of IQ gains by strata over the three year period (Table 3) offers some of the most encouraging data of the study as well as some of the most disturbing. The high loss (13 points) of the middle and low strata children in the direct verbal group during the first grade in the public schools was not shared by children in these strata in either the traditional or the ameliorative groups. The low strata children of the ameliorative group, in fact, maintained their sizable initial gain (15 points) with remarkable consistency. Because the gains of the ameliorative children in the low and middle strata were both substantial and stable, it seems justifiable to conclude that this program offered particular opportunities to develop the intellectual functioning of low normal and slow learning children. The ameliorative preschool program stressed physical mastery of a concept through manipulative experience accompanied by appropriate verbalizations--a mode of instruction apparently suited to the children in these strata. The academic readiness work offered in the supportive program the second year not only maintained the gains in intellectual functioning made during the preschool year but seemed to provide the necessary thrust to sustain this level of performance again the third

TABLE 3

Binet IQ Gains
By Intervention by Strata

Group	Strata	N	Post-Preschool Test 1-2 Difference	Postkindergarten Test 1-3 Difference	Post-First Grade Test 1-2 Difference
Traditional	High	7	6.3	4.1	-1.4
	Middle	10	8.9	5.1	10.1
	Low	8	9.0	7.4	6.3
Ameliorative	High	8	9.9	10.8	- .5
	Middle	9	15.7	12.0	10.7
	Low	7	16.0	14.7	14.7
Direct Verbal	High	3	11.3	21.7	15.3
	Middle	4	14.0	20.8	7.0
	Low	3	15.7	30.7	19.0

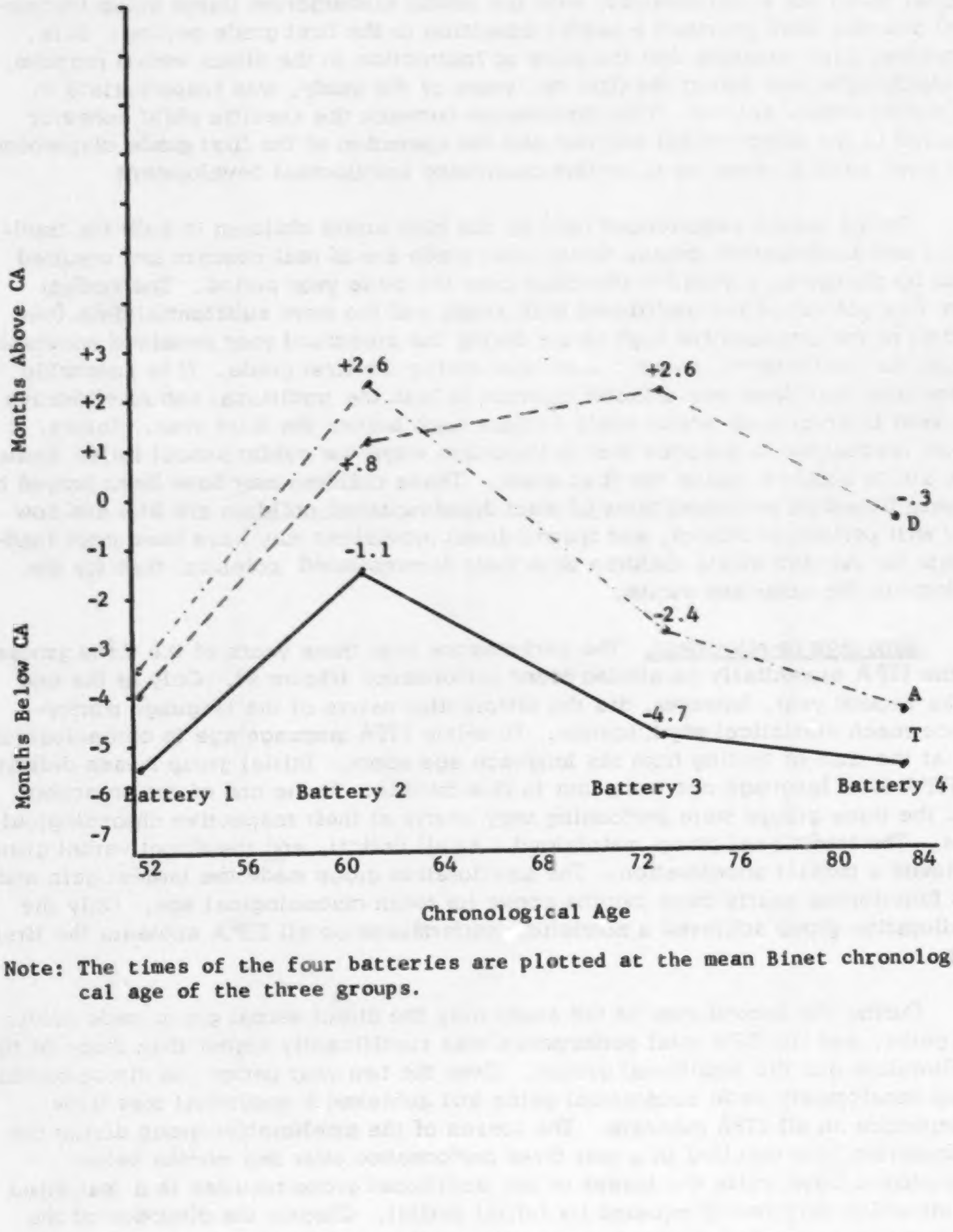
year when these children were in the first grade with no special programing. Since the early amelioration of school inadequacies was the intent and design of the ameliorative program, the magnitude and stability of these IQ gains is an endorsement of the effectiveness of this program. The drastic reversal in Binet performance experienced by the children in the lower two strata of the driect verbal group suggests difficulty in making a transition from intensive pupil-teacher interaction to large group instruction. Children in the traditional group had never experienced such a high degree of teacher-pupil interaction. Although children in the ameliorative group had been actively engaged in small group, teacher directed instruction during their preschool year, the supportive program the second year (low pupil-teacher ratio) ran simultaneously with the public kindergarten (large group instruction) and may have provided a useful transition to the first grade setting. It is, of course, also possible that the mode of instruction in the direct verbal program, so highly effective during the first two years of the study, was inappropriate to the public school setting. This dissonance between the specific child behavior required in the direct verbal program and the operation of the first grade classroom may have been so great as to inhibit continuing intellectual development.

The IQ losses experienced only by the high strata children in both the traditional and ameliorative groups during first grade are of real concern and resulted in an IQ change in a negative direction over the three year period. The modest gain (six points) of the traditional high strata and the more substantial gain (ten points) of the ameliorative high strata during the preschool year remained constant during the kindergarten year but were lost during the first grade. It is untenable to presume that there was a factor common to both the traditional and ameliorative two year interventions which could explain such losses the third year. Rather, it seems reasonable to suppose that in important ways the public school failed these high strata children during the first grade. These children may have been judged by criteria based on preconceptions of what disadvantaged children are like and how they will perform in school, and instructional provisions may have been more inadequate for the high strata children with their demonstrated potential than for the childrenin the other two strata.

Language development. The performance over three years of the three groups on the ITPA essentially paralleled Binet performance (Figure 2). Only at the end of the second year, however, did the differential nature of the language performance reach statistical significance. To relate ITPA language age to chronological age at the time of testing from his language age score. Initial group means deficits on ITPA total language age were four to five months. At the end of the preschool year the three groups were performing very nearly at their respective chronological ages. The traditional group maintained a small deficit, and the direct verbal group achieved a modest acceleration. The ameliorative group made the largest gain and was functioning nearly three months above its mean chronological age. Only the ameliorative group achieved a nondeficit performance on all ITPA subtests the first year.

During the second year of the study only the direct verbal group made continued gains, and its ITPA total performance was significantly higher than those of the ameliorative and the traditional groups. Over the two year period the direct verbal group consistently made substantial gains and achieved a nondeficit test three performance on all ITPA subtests. The losses of the ameliorative group during the kindergarten year resulted in a test three performance over two months below chronological age while the losses of the traditional group resulted in a test three deficit which very nearly equaled its initial deficit. Clearly the direction of the ameliorative supportive curriculum, in spite of the nondeficit performance of this group at the end of the preschool year, had moved prematurely from language development toward academic achievement. The inadequacy of traditional kindergarten

FIG. 2 ITPA Total Language Age Difference Scores--Three Groups for Three Years.



Note: The times of the four batteries are plotted at the mean Binet chronological age of the three groups.

programing for developing language of disadvantaged children is reflected in the losses of the ameliorative group and even more sharply in the losses of the traditional group. The continued progress of the direct verbal group clearly supports sustained special programing during the kindergarten year.

There were no statistical differences among the ITPA total performances of the three groups at the end of the third year of the study. All groups regressed during the first grade year. The extent of the losses of the traditional and ameliorative groups during the kindergarten and first grade years exceeded the gains they had made in the preschool year. Although the direct verbal group was performing at its chronological age, the loss experienced by this group during the first grade exceeded their gain of the kindergarten year and does not support an encouraging language prognosis. The longitudinal data suggest that no intervention program was entirely successful in providing the necessary impetus to maintain an adequate level of language functioning in the first grade of the public schools.

Visual perception. The performances over the three year period on the Frostig Developmental Test of Visual Perception were substantially different for the three groups (Figure 3). At the end of the preschool year, the performance of the ameliorative group was significantly higher than that of the traditional group only. Frostig suggests that children whose scores fall in the lowest quartile will experience difficulty in school adjustment and recommends remedial training for these children. At the end of the first year, 76 percent of the children in the traditional group, 30 percent of the children in the direct verbal group, and 21 percent of the children in the ameliorative group obtained such scores. The superior performance of the ameliorative group may be attributed to those aspects of the curriculum designed to develop visual perceptual skills: the recognition of geometric shapes; cutting dot-to-dot, matching, and pasting exercises; and pencil/crayon work in general.

During the kindergarten year, the ameliorative and direct verbal groups made continuing progress and were significantly higher than the traditional group which regressed slightly.

All groups made progress during the first grade year; however, the traditional group made a substantial gain and there were no longer significant differences among the groups. Only 8 percent of the children in the ameliorative group now scored in the lowest quartile while 20 percent of the direct verbal children and 44 percent of the traditional children earned such scores. Children who participated in the traditional program did indeed make gains in this area in the first grade; however, the groups who participated in the structured academically oriented programs had a considerably smaller percentage of children who might be considered prone to reading failure, to the extent that reading failures are related to visual perceptual inadequacies.

School readiness. Since normative data for the Metropolitan Readiness Tests are not available for preschool children, the data obtained at the end of the kindergarten year (Battery 3) provide a more apporpriate base for discussion. The postkindergarten performances of the ameliorative and direct verbal groups were significantly higher in both reading and number readiness than those of the traditional group (Table 4).

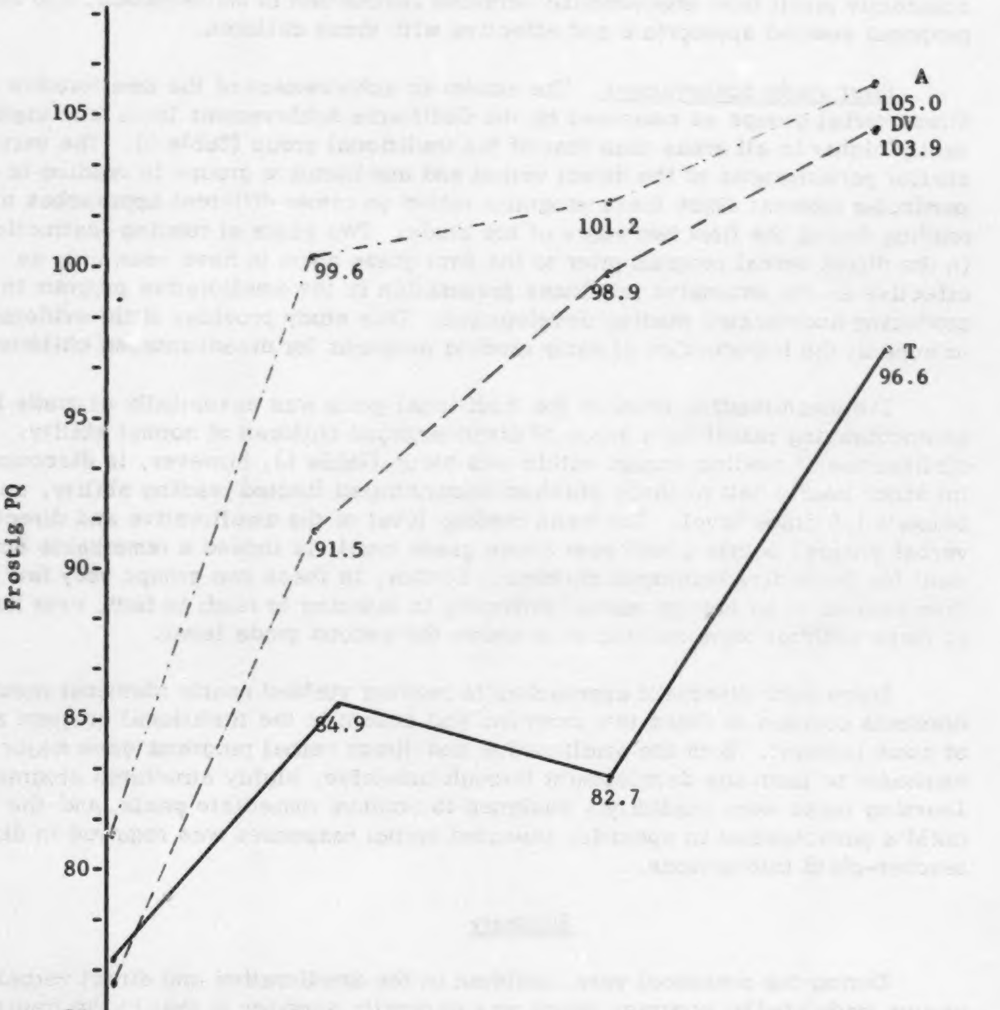
A superior reading readiness status was achieved by 38 percent of the children in the ameliorative program, and 67 percent of the children in this group were rated high normal and above. No child in the other two programs earned a superior rating, while 40 percent of the children in the direct verbal group and 28 percent of those in the traditional group were in the high normal range. A major intent of

TABLE 4

Metropolitan Readiness Tests Raw Scores

Group	N	Reading Readiness Post-Preschool Battery 2	Reading Readiness Postkindergarten Battery 3	Number Readiness Post-Preschool Battery 2	Number Readiness Postkindergarten Battery 3
Traditional	25	36.6	48.4	5.9	12.8
Ameliorative	24	40.6	56.5	10.8	21.0
Direct Verbal	10	35.3	53.9	11.5	20.5

FIG. 3. Frostig PQ--Three Groups for Three Years.



Note: The times of the four batteries are plotted at the mean Binet chronological age of the three groups.

the ameliorative supportive program had been preparation for formal reading instruction, and this focus developed reading readiness skills as measured by the Metropolitan. The failure of the direct verbal group to achieve a performance superior to that of the ameliorative group is puzzling since the direct verbal curriculum included an intensive two year reading program.

The superior performance of the ameliorative and direct verbal groups in number readiness at the end of the kindergarten year reflects their highly specific mathematics curricula. Disadvantaged children of preschool and kindergarten age apparently profit from academically oriented instruction in mathematics, and both programs seemed appropriate and effective with these children.

First grade achievement. The academic achievement of the ameliorative and direct verbal groups as measured by the California Achievement Tests was significantly higher in all areas than that of the traditional group (Table 5). The very similar performances of the direct verbal and ameliorative groups in reading is of particular interest since these programs relied on rather different approaches to reading during the first two years of the study. Two years of reading instruction in the direct verbal program prior to the first grade seem to have been only as effective as the extensive readiness preparation in the ameliorative program in producing accelerated reading development. This study provides little evidence to support the introduction of early reading programs for disadvantaged children.

The mean reading level of the traditional group was essentially at grade level, an encouraging result for a group of disadvantaged children of normal ability. The distribution of reading scores within this group (Table 6), however, is disconcertint since nearly half of these children demonstrated limited reading ability, scoring below a 1.5 grade level. The mean reading level of the ameliorative and direct verbal groups, nearly a half year above grade level, is indeed a remarkable achievement for these disadvantaged children. Further, in these two groups very few children seemed to be having marked difficulty in learning to read; in fact, over half of these children were reading at or above the second grade level.

Since such divergent approaches to reading yielded nearly identical results, elements common to these two programs and absent in the traditional program are of some interest. Both the ameliorative and direct verbal programs gave major emphasis to language development through intensive, highly structured programing. Learning tasks were explicityly designed to achieve immediate goals, and the child's participation in specific, repeated verbal responses was required in direct teacher-child interactions.

Summary

During the preschool year, children in the ameliorative and direct verbal groups made similar progress which was generally superior to that to the traditional group. A slight advantage fell to the ameliorative group in language development. During the kindergarten year, the ameliorative and traditional groups regressed substantially in critical areas. The one hour ameliorative supportive program may be credited with achieving a performance superior to that of the traditional group and equal to that of the direct verbal group only in school readiness and visual perception. The direct verbal group, which attended a continued special program during the kindergarten year, made consistent progress in all areas, achieving a generally superior performance. At the end of the third year of the study, the magnitude of the losses experienced by the direct verbal group essentially resulted in nondifferential performances among the three groups in intellectual and language functioning. Significantly different performances occurred only in school achievement where the ameliorative and direct verbal groups were superior to the traditional

TABLE 5
California Achievement Tests
at the End of First Grade

Group	N	Average Grade Placement	Grade Norms		
			Reading	Arithmetic	Language
Traditional	25	1.74	1.67	1.49	1.70
Ameliorative	24	1.74	2.12	1.80	2.09
Direct Verbal	10	1.72	2.17	1.80	2.00

TABLE 6
California Achievement Tests
Distribution of Reading Scores
at the End of First Grade

Group	N	Grade Norms			
		Below Average 1.0-1.4	Average 1.5-1.9	Above Average 2.0-2.4	Superior 2.5-3.4
Traditional	25	48%	28%	8%	16%
Ameliorative	24	8%	42%	21%	29%
Direct Verbal	10	10%	20%	50%	20%

Note: These distribution categories were constructed on the basis of the average grade placement of the children (1.7).

group.

In spite of the disappointments of some of the logintudinal data, a major accomplishment of this study remains: serious learning deficits of the disadvantaged children in the ameliorative and direct verbal groups were eliminated during the preschool year. In the direct verbal program, where extensive special programing was sustained over a two year period, continued growth occurred. These achievements are a legitimate basis for assuming that these structured academically oriented preschools are an appropriate and effective intervention. The deterioration in language and intellecutal functioning which occurred at the termination of intensive programing demonstrates the need for continued intervention characterized by low pupil-teacher ratios which make possible the interaction necessary for language development and provide the opportunity to design and implement tasks which will achieve specific goals.

REINFORCEMENT PROCEDURES AND THE INCREASE IN FUNCTIONAL SPEECH BY A BRAIN INJURED CHILD

by

R. Vance Hall

A number of studies have demonstrated that reinforcement procedures can be used effectively in establishing speech in speech deficient and echolalic children. Notable among these are those by Risley and Wolf (1966), Lovaas (1966), and Baer, Peterson, and Sherman (1967). These and most of the other such studies were carried out in laboratory settings by skilled researchers, most of whom had extensive training in employing reinforcement procedures, including laboratory work, with lower animals.

In contrast, the present study was carried out in a school setting by someone with no previous experience in either speech training or operant procedures and no experience in the animal laboratory. Furthermore, Jackie, the subject, had been labeled as brain injured and had been termed not ready for speech training by the school speech therapist because of his extreme hyperactivity and inattention when speech testing had been attempted.

Jackie was a six year old boy who had been variously diagnosed as brain injured and autistic. According to psychological tests, his overall level of functioning was that of a child with moderately severe mental retardation.

When he entered the preschool class of the Experimental Education Unit at the University of Washington he was hyperactive and often ran about flapping his hands. He did not play with other children or respond to adult verbal instructions. He liked to make puzzles and to play records on a record player. His speech included a great deal of screaming and other unintelligible vocalizations. Most of his intelligible speech was inappropriate to the situation and echolalic in character.

After more than two years in the school, Jackie still exhibited most of these behaviors. The school speech therapist had recorded occasional appropriate use of speech during his preschool class sessions. Appropriate intelligible speech ranged from none heard in an entire morning class period of two hours to three or four words or phrases. His teachers reported that he continued to be almost totally unresponsive to adult verbalizations. Furthermore, when they attempted to contact or talk to him he often responded by running from them and making bizarre gestures and vocalizations.

His parents reported he was a poor eater though he liked certain foods He used little appropriate speech at home and did not usually respond to his parent's verbal instructions. It was difficult to get him to go to bed or to eat properly and he had frequent temper tantrums.

Since he had made little progress since entering the school program, it was decided to try systematic reinforcement procedures. Experimental speech training sessions were held in a small room in the school which served as the principal's office. Besides the usual desk, filing cabinet, and bookcases there were two chairs, a tape recorder, a record player, records, coloring book, crayons, and a snack for Jackie.

Prior to the first session, Jackie's parents agreed to furnish a daily snack consisting of apple juice, peanuts, Fritos, and other foods Jackie was known to like. He was picked up and brought to the principal's office by the experimenter at approximately 10:30 a.m. each morning after his class was over for the day.

In each session Jackie's verbal responses were recorded manually on a tally sheet. Each session of 30 to 35 minutes was also tape recorded so that this record could be checked for reliability. An independent observer scored recordings of various sessions of each phase of the experiment. The observer tallied the number of the various types of verbal responses Jackie made during a session. This tally was then compared to that made by the experimenter. Agreement of the records varied from 82 to 95 percent.

Baseline Phase--Sessions 1-3

During the first three baseline sessions no attempt was made to reinforce Jackie's verbal behavior. He was allowed to play records, to color in the coloring book, and was given bites of snack and verbal approval whether or not he responded to questions, greetings, or statements of initiated free verbal operant speech without any cues from the experimenter.

As can be seen in Figure 1, under baseline conditions only about three intelligible and appropriate verbalizations were recorded in each 30 minute session. He often talked in jargon and made other unintelligible sounds. There was relatively little hand clapping or other bizarre behavior and there were no tantrums.

Reinforcement Phase--Sessions 4-33

Beginning with session four, bites of snack, verbal approval, and access to play materials were made contingent on intelligible and appropriate verbalization. Reinforcement was also given when Jackie obeyed verbal commands even though they didn't require verbalization. This withdrawal of reinforcement except for appropriate behavior resulted in an immediate increase in clapping, crying, screaming, bizarre laughing, and jargon. There was also an increase in intelligible but inappropriate speech. Often he would point to the food or play object and would cry, scream, clap his hands, and emit a wracking cough when the item was not given to him. When the experimenter asked him what he wanted or named the desired object hoping Jackie would imitate him appropriately, very often Jackie would cover his ears with his hands as if to shut out the experimenter's voice.

The experimenter turned away from Jackie whenever he engaged in bizarre

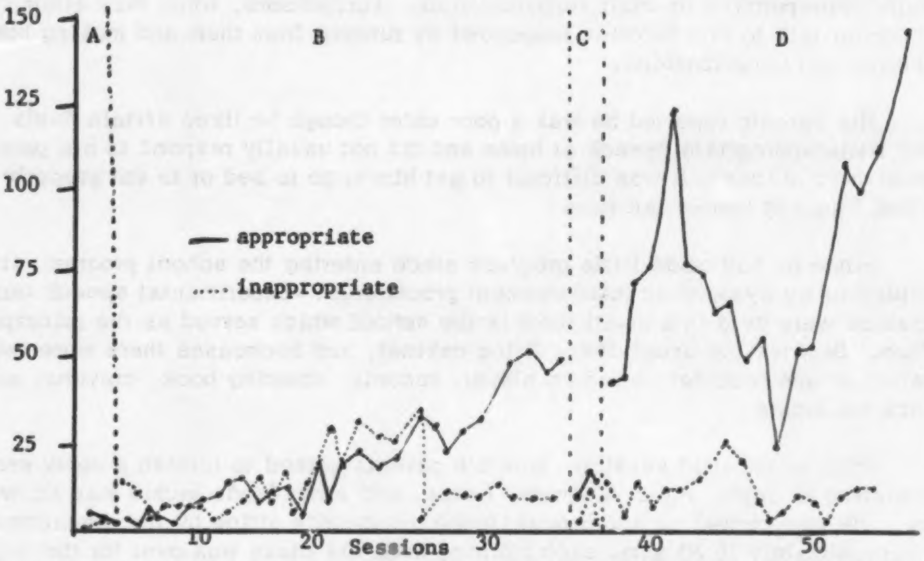


FIG. 1. A record of Jackie's appropriate and inappropriate verbalization. (A--Baseline period, prior to contingent reinforcement; B--Reinforcement period, verbalizations reinforced by food, play materials, and the experimenter's attention; C--Reversal period, return to baseline conditions of noncontingent reinforcement; D--Second reinforcement period, return to procedures of contingent reinforcement.)

behavior or left his chair on the theory that his attention was maintaining these behaviors. By session eight Jackie spent most of him time lying on the floor. Responding was occurring at such a low rate he was receiving almost no reinforcement during the sessions.

Beginning in session nine all intelligible verbalization were reinforced with a bite of snack or access to play materials whether they were appropriate or inappropriate since it was decided Jackie's response rate was so low he wasn't receiving enough reinforcement to maintain verbal responding. This resulted in an increase in both inappropriate and appropriate responding in the next few sessions.

In session 14, Jackie had two terrific temper tantrums lasting over eight minutes after he removed his shoe and the experimenter refused to put it back on for him until he said "shoe," which he finally did. (Following this particular session as the experimenter took Jackie outside to his mother, the previously inarticulate boy suddenly said, "I want to kiss you," and reaching up, he did so.)

Beginning in session 19 the experimenter made an effort to follow intelligible speech more quickly by reinforcement after an analysis of tape recordings indicated there was often a delay between the time of Jackie's response and delivery of reinforcement and verbal approval ("Good boy, that's right, etc.").

This decrease in latency resulted in an increase in verbalization which was maintained to the end of the reinforcement phase.

In session 24 the experimenter introduced a tracing book which had pictures of the cartoon characters Mush Mouse and Punkin Puss. Tracing copies of the pictures in the book with a pen proved to be a very reinforcing activity for Jackie. When using the pen was made contingent on saying, "a pen," Jackie was soon appropriately imitating "a pen," responding to the command, "Say, a pen," and answering the question "What is this?" and, "What do you want?" Soon the rate of appropriately naming other objects and pictures of objects in answer to these questions increased also.

During the 30 sessions of the first reinforcement phase 601 appropriate intelligible verbalizations were recorded for Jackie, a mean rate of 20 per session. As can be seen in Figure 1 inappropriate verbalizations had increased also but from session 25 on there were more appropriate verbalizations than inappropriate ones and the difference increased after session 25. Tantrums and bizarre behavior had almost ceased.

Reversal Phase--Sessions 34-36

Beginning with session 34 reinforcement conditions were reversed. During the three reversal sessions no reinforcement was given to intelligible verbalizations. Bites of snack, approval, and access to the tracing book and record player were given only when Jackie engaged in inappropriate behavior. As can be seen in Figure 1 there was a marked decrease in appropriate verbal responding. By the last session Jackie had begun to say, "oy-bāga-seers" to indicate he wanted a pen, a book, or other object. The rate of jargon speech increased and bizarre behaviors which had largely been extinguished also reappeared.

Reversal was terminated after three sessions because of the possible detrimental effects on Jackie's future progress in the speech training program.

The Second Reinforcement Phase--Sessions 37-54

In the first session of the second reinforcement phase Jackie did not respond appropriately to the first few of the experimenter's questions, imitative cues, or commands. He repeated the jargon sounds, "oy-bāga-seers," several times. Once an appropriate vocal response occurred and was reinforced, however, the rate of intelligible verbalizations rose quickly.

Beginning in session 40, the experimenter used a fading procedure to teach Jackie to preface his requests with, "I want." First the experimenter would hold up a record. Jackie would say, "a record." The experimenter would say, "I want a record," which Jackie would imitate. When this was being imitated consistently, the experimenter would hold up a record and say, "I want," and Jackie would say "a record." Then the experimenter would say, "I" and prompt Jackie by forming the voiceless mouth movement for, "want" and Jackie would say, "want a record." Then the experimenter would do the same with the word "I" until Jackie was saying "I want a record," without prompting. The same procedure was used to teach Jackie to say, "I want the green pen, I want the paper," and to make other requests. By the 43rd session Jackie's mother reported he had begun to request things at home by prefacing them with "I want." Similar fading procedures were used to teach Jackie to respond to the greeting "Hi, Jackie" with, "Hi, Mr. Hall."

Just prior to session 46 Jackie missed four days of school due to illness. In the next four sessions he was listless and uninterested in bites of snack. He spent long periods laying on the floor. The total number of vocalizations decreased. In session 48 he lay on the floor and moaned and would eat no snack. He requested the experimenter to unlatch the door and the session was terminated after 16 minutes. In the next session he was still lethargic but there was some recovery of performance. In the last four sessions appropriate responding increased reaching 132 in the final session. There was very little jargon, clapping or other bizarre behavior in these last sessions. In four of the last seven sessions, no inappropriate free verbal operants were recorded.

During the 18 sessions of the second reinforcement phase, 1005 appropriate vocalizations were recorded, a mean rate of 55.8 per session. Typically, these consisted not only of the appropriate naming of objects but also of more complex phrases and statements some of which were taught or shaped by the experimenter and some of which were emitted without training. Among those recorded were, "I want a drink of apple juice," "I want a candy," "I want to play," "Oh, it's time to go," "Please open the door," "I want you to take it off," "Get the lunch pail," "Be quiet," and "Mother is here."

Thus, by the last experimental session Jackie was using speech as an appropriate means of communication and was incrasing the complexity of his speech patterns.

Figure 2 is a record of the percentage of Jackie's appropriate responses to the experimenter's verbal cues (questions, statements, commands, and greetings).

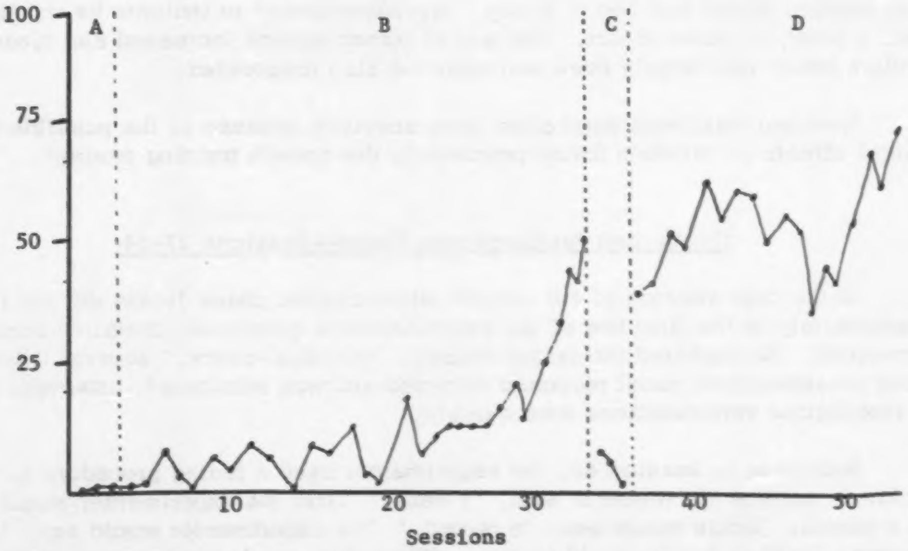


FIG. 2. A record of the percent of Jackie's appropriate responses to the experimenter's verbal cues. (A--Baseline period, prior to contingent reinforcement; B--Reinforcement period, verbalizations reinforced by food, play materials, and the experimenter's attention; C--Reversal period, return to baseline conditions of noncontingent reinforcement; D--Second reinforcement period, return to procedures of contingent reinforcement.)

During the baseline sessions Jackie made but two appropriate responses to the 296 verbal cues given which is less than one percent. By the end of the first reinforcement phase Jackie was responding appropriately over 50 percent of the time. By the third reversal session appropriate responses had dropped to 1.6 percent. There was an immediate increase once reinforcement contingencies were re-introduced and, except for a drop during the sessions following illness, Jackie's level generally increased and reached a peak of 78.5 percent in the final session in spite of the shaping procedures and demands for more complex speech as the sessions progressed.

Evidence of Generalization

Figure 3 is a record of appropriate verbalizations recorded at home by Jackie's mother. During a five day period prior to the beginning or experimental procedures (baseline) a total of 27 or 5.4 a day were recorded for Jackie and 20 of these were single word responses.

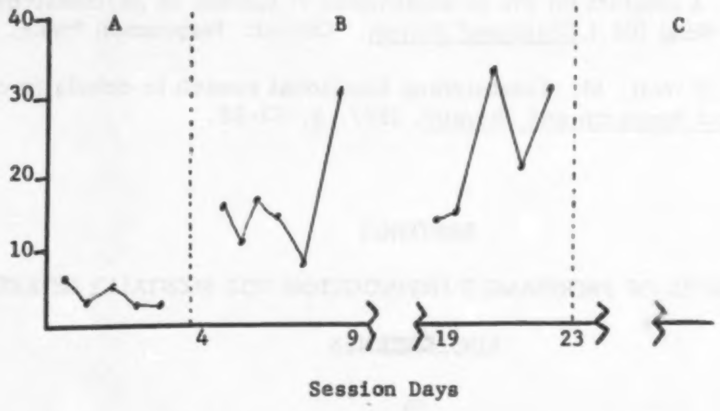


FIG. 3. A record of Jackie's intelligible appropriate verbalizations at home. (A--Baseline period, prior to experimental procedures; B--Reinforcement period, on days of reinforcement procedure sessions; C--Post experiment, three months after termination of the experiment--3:30 to 9:00 p.m.)

In the first six days after experimental procedures were begun his mother recorded 69 appropriate verbalizations or 11.5 per day. On the 19th through the 23rd days of the experiment the mother recorded 94 or 18.5 per day. Of these, only two were one word responses. On the 24th day she reported she was no longer able to record what Jackie said because his appropriate verbal production was too great. No further attempt was made to measure his home speech production until after experimental procedures were terminated when his mother recorded 32 appropriate sentences and phrases and no one work responses from 3:30 p.m. to his bedtime after supper. Among these were "A riding horse, giddy-up; sharpen the pencil; want a fig bar; wash hands; hang up the towel; run up and go potty; mail a letter, put in a mailbox; a vacuum, put it together; turn it on; turn it off; mommy unplugged it; plug it in."

The mother, father, his teachers, and the speech therapist all agreed that since Jackie had begun his speech training program he had become must more responsive to adult verbalizations, had begun to listen and participate in group sessions in school, and had greatly increased the use of appropriate speech for communication.

Discussion

In summary, the data from this study are evidence that reinforcement procedures offer promise for working with children who are deemed not ready for usual speech therapy. Second, they suggest that speech therapists should consider using reinforcement procedures in a systematic manner. Even though they have limited backgrounds in using reinforcement procedures, they are likely to find, as did the author, that training occurs very rapidly in the process of carrying them out. Finally, the data suggest that in addition to food, access to desired play materials or the opportunity to engage in high probability activities may be used advantageously as reinforcers during speech training.

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ABSTRACT

SEQUENCES OF PROGRAMED INSTRUCTION FOR MENTALLY RETARDED ADOLESCENTS

by

G. Phillip Cartwright

Forty educable mentally retarded adolescents randomly assigned to two groups received two different sequences of programed instruction. The two sequences (one ordered, one random) consisted of 612 identical frames but the frames were placed in different orders for the two groups. No differences were found between the two groups on immediate learning, but the ordered sequence group was superior to the scrambled sequence group on a retention test. Substantially different aptitude criterion test correlational patterns were found which suggested that different aptitudes were required by the two groups in order to make equivalent learning test scores.

SPECIFIC TREATMENT AND INSTRUCTIONAL RECOMMENDATIONS

by

Margaret A. Scheffelin

This paper has several purposes: first, to raise issues with regard to "research needs for central processing dysfunctions;" second, to attempt to clarify those issues by defining some common terms; and third, to present one way of experimentally assessing performance so as to arrive at specific instructional recommendations.

First, research needs, adapted from Chalfant and Scheffelin (in press).

1. A change in emphasis from testing to teaching, especially in discrete school tasks.
2. More precise descriptions of methodology to permit replications.
3. Programatic research leading to "strong inference."

4. Early detection and treatment.

5. Supplementing of an almost total reliance on norm referenced tests by a more widespread use of criterion referenced tests for specific tasks.

6. Investigation of units of varying size, from one learner on one task through small groups, classrooms, school districts, regions, states.

7. Biochemical aspects of learning.

8. Training of researchers at all levels of expertise and generality of competence.

9. Dissemination and avoidance of unnecessary duplication.

10. Attempts to show efficacy of certain treatments with children with precisely defined characteristics.

11. Longitudinal, ideographic studies, as in the experimental analysis of behavior.

The second purpose of this paper is to define some common terms. A person who has read, abstracted, or attempted to replicate a particular methodology may have experienced the exasperation I feel when I read some published reports. The battle for operationally stated definitions has fairly well been fought in the field of experimental psychology. This battle is now being fought--or so I trust--in the field of education. A standard set of terms and definitions appears to be needed. A sample set of terms is presented for discussion, revisions, and possible adoption. This set has been constructed to apply to many reportable situations. A particular report would be expected to flesh out this partial taxonomy with specific methodological items such as personal characteristics and task variables.

Personal characteristics are those which identify the persons involved in the situation such as age, sex, previous experience, and other information typically needed for replication. Task variables will be discussed in a later section.

1. Person: A human being. The set of persons has two subsets: Instructors and Learners.

2. Instructor: A person who performs instruction. The set of instructors has two subsets: Professors and Teachers.

3. Professor: An instructor who teachers a student in a posthigh school course situation.

4. Teacher: An instructor to a pupil in a high school or prehigh school situation.

5. Instruction:
   a. Presenting a task to a learner
   b. Monitoring the learner's performance
   c. Returning information concerning his performance
   d. Adapting the task when necessary for successful performance

6. Learner: A person whose level of competence is to be raised. The set of learners has two subsets: Students and Pupils.

7. Student: A learner who is taking a posthigh school course, in which he per-

forms some task(s).

8. Pupil: A learner who is exhibiting some performances, either as a measure of present status (being tested) or as a means of changing his present status (learning).

9. Learning: "Any relatively permanent change in behavior which occurs as a result of experience or practice."

10. Testing: Ascertaining the present status of a pupil's level of competence in performing a task. Testing includes steps a and b of Instruction.

11. Diagnosis: Classifying certain symptoms and/or characteristics, usually in medicine, considered as an effect for which a cause is sought.

12. Assessment: Observing the present status of certain measurable or quantifiable characteristics.

13. Evaluation: Integrating assessments from different disciplines into the framework of one of those disciplines.

14. Remediation: Changing the status of a characteristic in a chosen direction.

15. Compensation: Substituting a process or product with high probability of success for another process or product with low probability of success.

16. Replication: The repetition of a set of procedures used previously.

The third purpose of this paper is to present one way to experimentally assessing performance so as to arrive at specific instructional recommendations. The assessment scheme is that of analysis of the response characteristics of the learner in a particular set of learning situations, or tasks. The analysis has two parts. Part I contains the presentational, or stimulus aspects of the task. Part II contains the response characteristics required for successful performance in the task. An arbitrary hierarchy of performance aspects has been assumed in this analysis. Empirical data are needed to confirm or deny the writer's judgment, which is based on ancedotal data.

Figure 1 presents the presentation aspects of stimuli. It can be noted that under Stimulus Modality there are three main headings--tactual, visual, and auditory. Within each modality are listed several aspects. These lists are not exhaustive. Within the visual and auditory modalities is a subcategory; that of associations between active and passive touch and the result of touch, for example, the varying qualities of a handshake.

A separate section deals with Instructions which can be divided into verbal and nonverbal. Here also, both types can include tactual as well as visual and auditory--for example, Braille dots are tactual and verbal.

Looking at the headings under the title "Quantitative," it can be seen that the Number of Units and the type of units must be considered together. The words "two verbal units" do not convey enough information to permit replication or the specification of instructional recommendations. That phrase "two verbal units" can be interpreted to signify two speech sounds--or two novels. However, "two 4 word sentences, each of the form adjective-plural -noun-verb-noun" conveys much more information. An example of the "verbal unit" is helpful, i.e. "Big dogs eat food."

FIG. 1. Task performance analysis--Part I: Presentation aspects of stimuli.

Stimulus Modality	Quantitative		(If more than 1 unit)			
Description	Number of Units	Type of Units	Simultaneous	Successive	Duration	Sequence
Tactual						
Weight						
Surface						
Size						
Shape						
Visual						
Color						
Form						
Size						
Symbolism						
Letters						
Numerals						
Other						
Auditory						
Pitch						
Loudness						
Symbolism						
speech words						
sounds names (letter "A")						
Other						
Instructions						
verbal						
auditory						
visual						
Nonverbal						
auditory						
visual						

Several other measurable aspects are important, if for no other reason than to cause instructors to consider these as aspects with which they can vary in their instruction. The simultaneous or successive presentation of various stimuli, including the instructions to the learner, can be a powerful variable in learning rate and in degree of learning. Does the instructor tell, and then show? Or show and then tell? Or both at once? How long does each event last, or what is the duration? In what sequence are the different parts of the stimulus presentation? Is there a response interval? Without this information about timing, replication will be random, not systematic. Likewise, analysis of the learner's successful performance on a particular task, under a specified set of time requirements, can lead directly to recommendations for instruction.

After specifying the presentational aspects of the task, it is necessary to specify the response aspects, or the terminal behavior necessary for successful performance. Figure 2 presents a scheme for analyzing the form of the expected response. The left hand column is headed "hierarchy of responses." These response types have been roughly ordered for difficulty on an "easiest-hardest" dimension. In general, imitation is generally agreed to be easiest, while free topic expression is the most difficult. Imitation is the mimicking of the instructor's action. Retrieval signifies a recall on a two choice, mutually exclusive and mutually exhaustive situation. For nonguessing correct responses, the learner must categorize the stimulus unit and reply with the correct response. An example of a "yes-no" retrieval response is "Do bicycles eat?" from the Illinois Test of Psycholinguistic Abilities (revised edition). Another example is the classic children's guessing game, "Odd or Even." Still another example is a 2 choice completion question, such as "When water freezes, it (expands, shrinks) in volume."

Completion responses are either free recall (fill in the blank) or multiple choice, when there are more than two choices. Correspondence responses require a judgment on a pair of stimulus items, such as a speech sound discrimination test. Wh questions refer to the entire range of requests for information. Some wh questions are completion exercises, such as, "How many eggs are there in a dozen?" to which some responder may reply, "Thirteen, if you count a baker's dozen!" Other wh questions are exercises requiring grammatical transformations of the question, plus a response to the question, such as, "Why aren't you in school today?" to which a reply might be "I'm not in school because it's Saturday!" The final type of response is expression, which includes both communicating about a given topic and choosing a topic and then communicating about it.

The next section of the scheme to be noted is the type of response required. The phrases "Alternative Correction Procedures" and "Error Prevention" refer to the principle which this writer terms the "dropup" procedure. If a learner fails, the instructor should drop up the hierarchy until a level is reached which holds a high probability of success.

The two subsections, quantitative and qualitative, refer to the numerical and temporal aspects and to the kind and manner of response, respectively. The quantitative aspects are similar to the quantitative aspects of stimuli as shown in Figure 1. The qualitative aspects represent an attempt to characterize responses. An expected response may be both vocal and verbal (for example, the spoken word "yes"), but the observed response may be only vocal (for example, humming or whistling). Note that a code or signal can be used systematically to communicate, if both the sender and receiver of a signal agree on the intention and meaning of the signal. For example, a "signal" reply to the instructor's query, "Who knows the answer?" might be the lifting of a hand. In this example, the boxes under the columns code or signal and hand would be checked along the rows marked retrieval (yes/no) and who. The number of units might be one if the expected action is

FIG. 2. Task performance analysis--Part II.

δ

Hierarchy of Responses	Type of Response Required. Alternative Correction Procedures--Error Prevention								
	Quantitative			Qualitative					
	Number of units	Type of unit	Latency duration	Vocal	Verbal	Code or Signal	Hand	Head	Other Parts of body
Imitation									
Retrieval									
(yes/no)(+/-) Completion									
(multiple choice) (fill blanks) Free choice Correspondence									
(same-not same) A=B $C \cong D$ Wh Questions									
Who did what where what to, with whom when why how how much whether how many Expression									
Given topic Free topic									

that of lifting the hand above the shoulder. The type of unit in this example would be "arm and hand motions." There are two time intervals of interest: latency and duration. Latency is the length of time between the end of the instruction, or the signal to begin responding, and the actual beginning of the response. Duration is the length of time between the beginning of the response and the end of the response.

The response analysis scheme just outlined can be used in two ways, assessment and recommendations. For assessing learning, the learner's observed characteristics can be plotted, thus collecting baseline data. For recommending instruction, the expected behavior is considered the long term goal, but the baseline or entry behavior is considered the starting point. If the long term goal does not appear attainable in one series of instructional sessions, then the instructor might plan several series of sessions designed to more closely approximate the desired behavior.

Where does the instruction begin? Rather than answer that rhetorical question directly, let us consider some decision rules for beginning instruction. Table 1 presents a series of choice points for the instructor.

The task should have at least seven attributes: (a) the learner has a high probability of success; (b) the learner has a favorable attitude toward it; (c) successful performance in the task will be intrinsically motivating to the learner; (d) the opportunity to perform the task can be used later to reward the learner for attempting a more onerous task; (e) the task should be utilitarian, not esoteric; (f) the task should not be obnoxious to the instructor and other persons in the learner's environment; and (g) the task must be educationally significant, either by itself as a whole or as a part of a larger task.

What are the implications of the matters just discussed? Turning to the report of Chalfant and Scheffelin (in press), it should be noted that along with research needs, there are development needs. So much research appears to have been piecemeal, fragmented, and therefore unproductive in the total picture. An experimental "task' appears in the literature as a "test," ostensibly with comparative data on "normals vs handicapped." The next step in the "development" chain, all too often, is to treat the "task" as a criterion test, and produce training exercises to improve performance on the test. Thus much creative energy and teaching efforts, as well as children's own labor, seem to be expended toward the acquisition of higher test scores. Some tasks are difficult for some children, and I for one would be pleased if I could raise performance consistently and with 12 month retention of the raised performance. (I am thinking of auditory vocal memory for digits.)

Conversely, there are some academically useful performances which are not, to my knowledge, in "test" form. Here I am thinking about simple oral labeling tasks: letters and numerals. There are important differences between these two items. We must remember that patterns of graphic letters represent speech sounds, while patterns of graphic numerals represent the number names for the number of items or events. "Number" is an idea. Number-names are spoken or written words. This matter probably warrants a fuller discussion--maybe next year!

Consider that you are a teacher of third grade children. One of your pupils is failing. Wouldn't it be useful to you if you know which letters and numerals he can identify? Is it useful to know whether he can identify the letters and numerals by pointing, when he hears the spoken name, and by naming, when the visual stimulus is presented to him?

In summary, why are we here today to discuss and think about research needs in psychoeducational diagnosis?

There are several possible answers, such as "I didn't find anything else to listen to at this time," or "I wonder if they are going to say anything different this year." May I ask a pointed question of each of you? And, be assured, I am asking this same question of myself. The question is this--"As a result of my participation in this panel, or in this conference, am I planning to make any behavior change? In myself, I mean, not in my pupils, or in my colleagues, or in the central administration, but in myself?"

What changes can we make in diagnostic procedures and outcomes? We can stop doing several things, and we can start doing several other things. What can we stop doing? We can stop collecting certain data on certain performances from a child, making inferences about the child's status on certain hypothetical dimensions, and then attempting to relate the data, observations, and inferences to school life and academic tasks. What leaps we make when going so far beyond the information given!

In contrast, what can we start doing? We can begin analyzing the life and school tasks with which a particular child is having troubles. We can observe and analyze the child's performance on that task and variations or adaptations of that task. Putting together the data from our observations and integrating the data in an instructional framework, we can logically plan an instructional program for that child.

Reference

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THE STABILITY OF READING ACHIEVEMENT IN DEAF ADULTS

by

Frieda K. Hammermeister

The deficiencies in the reading achievement of deaf children have been extensively documented by researchers. Little is known at the present time, however, about the reading proficiency of deaf adults.

Although the studies of reading achievement of hearing adults are limited in number, inadequate in sampling and design procedures, and frequently containing only estimates of the reading achievement, the results suggest a general increase in reading skills after adults leave school (Buswell, 1937; Gray & Leary, 1935; Gray, 1956, 1960; Lorge & Blau, 1941; Norris, 1940). To date, the evaluation of the reading skill of deaf adults has been neglected. The major objective of this study, therefore, was to make an initial assessment of the reading achievement of deaf adults who were graduates of a residential school for the deaf 7 to 13 years ago. A major implication of this study was to focus attention on the reading level of the adult deaf as the real criterion in the establishment of adult educational programs or in individual vocational counseling and rehabilitation.

Many research studies have been conducted to assess the reading achievement of deaf students at all ages and in attendance at every level and type of school (Babbidge, 1965; Denton, 1965, Furth, 1966; Fusfeld, 1955; Goetzinger & Rousey, 1959; Schick, 1966), but no research has been presented of reading skills among deaf adults beyond college age. The effects of time and maturation placed upon the deaf after leaving school and the increasing demands on reading for communication and information suggest an increase in reading skills, but other factors may hinder progress. The restricted opportunities for growth in language skills in employment or social situations in a hearing society may result in no change in reading proficiency. Thus, the problem under investigation was to determine whether deaf adults would show change in reading skills after they had left school.

Hypotheses

The major hypotheses of this study were tested for the reading proficiencies of paragraph meaning and word meaning:

Deaf adults do not show change in reading proficiency 7 to 13 years after graduation from a residential school for the deaf.

Deaf adults classified as low achievers at the time of graduation from a residential school for the deaf do not show change in reading proficiency after a period of 7 to 13 years.

Deaf adults classified as high achievers at the time of graduation from a residential school for the deaf do not show change in reading proficiency after a period of 7 to 13 years.

Direction of change in reading proficiency of deaf adults 7 to 13 years after graduation from a residential school for the deaf is independent of sex.

Direction of change in reading proficiency of deaf adults 7 to 13 years after graduation from a residential school for the deaf is independent of intelligence quotient.

All of the above hypotheses were also tested for the reading proficiencies of paragraph meaning and word meaning for noncollege subjects within the total group.

Procedure

Subjects. A letter was written to each of the 135 adults who had graduated from the Western Pennsylvania School for the Deaf, Pittsburgh, during the years 1954 through 1960 with a certificate of attendance, vocational degree, or academic degree, requesting their participation in the project. If a letter was returned because of an incorrect address, a followup letter with the changed address obtained from friends or local deaf groups was sent. Followup correspondence was also sent to all individuals who had not originally responded.

The final sample of individuals who participated in the investigation was composed of 60 subjects. Six of the 28 males and 4 of the 32 females had attended college for one year or more.

A comparison of the preliminray and final samples and information from school records are shown in Table 1.

TABLE 1

Comparison of Preliminary and Final Samples

Characteristics	Preliminary sample	Final sample
Unknown addresses	10	
Responses from subjects who could not participate	18	
Out of state subjects	25	12
Age range	24 to 33	24 to 33
Mean age	28.1	28.1
Mean IQ (49 subjects)	102.8[1]	104.0[2]

[1] Scores available for 112 subjects

[2] Scores available for 49 subjects

Evaluation instrument. The Stanford Reading Achievement Test which includes subtests on paragraph meaning and word meaning was selected for administration. Although no validity studies have been made of its use with deaf students, the test has certain features which make it an appropriate evaluation instrument with the deaf. Directions are easily understood by the deaf and the test can be administered to individuals with no speechreading skills. The division of the reading test into the two subtests of paragraph meaning and work meaning appears to give an adequate appraisal of the overall reading proficiency of the deaf.

The specific form and battery which the subject has taken in his final school year was administered to all subjects. The test authors state that since the five forms J, K, L, M, and N, 1953 edition, have been matched for content and difficulty, directly comparable results are yielded. Tables to permit conversion of scores on the earlier edition of Form E to equivalent scores on the 1953 edition are available. The comparability of scores from the 1940 and 1953 editions was determined and equivalent scores were derived. Extensive reviews of the validity and reliability of the Stanford Reading Achievement Test are available (Robinson, 1959).

Testing procedure. A letter was written to each of the 135 subjects of the preliminary sample whose addresses were known informing them of designated locations for group or individual testing during a 2 month period. The letter stated that a payment of $5.00 would be made to all participants to help cover transportation costs.

Specific locations for group or individual testing were set up in those areas where four or more deaf adults resided within a 20 mile radius.

Before the test was administered, the participants answered questions concerning their opinions of their present reading skill on an information sheet.

Methods of statistical analysis. Grade equivalent scores were obtained on the subtests on paragraph meaning and word meaning of the Stanford Reading Achievement Test. All of the data were analyzed for two distinct groups: the total group of subjects and the group of subjects who had not attended college for at least one year. Therefore, all of the statistical procedures listed below were repeated for the subgroup which did not attend college.

The t test for correlated observations (Edwards, 1954) was used to compare the two group means for the subtests.

The sample was divided into two groups, high achievers and low achievers, on the basis of falling above and below the median on the subtests at the time graduation. To test the hypotheses that low achievers and high achievers would not show change in reading proficiency 7 to 13 years after graduation, t tests for correlated observations were applied on the subtest results.

To determine if direction of change in reading proficiency on the subtests is independent of sex, the chi square test with correction for continuity (Edwards, 1954) was used.

The relationship between IQ and direction of change in reading proficiency on the subtests was established by means of a Pearson product moment coefficient (Edwards, 1954). Difference scores were interpolated to eliminate negative scores. The subject who had the greatest loss received a zero, and other subjects were assigned scores accordingly, for example 0 was given for a loss of 2.1 in grade equivalent score between student and adult test performance, 6.2 for a gain of 4.1 in grade equivalent score between student and adult test performance.

Results

Opinions of reading skill. The subjects responded to the question, "Do you think that you read better now than when you were in the Western Pennsylvania School for the Deaf?" Of the group, 54 subjects felt that they had improved, 3 indicated no change, and 3 were undecided.

Paragraph meaning. A comparison of scores for the subtest on paragraph meaning by means of t tests for correlated observations indicated no significant differences for the total group of subjects nor for the noncollege subgroup. Table 2 summarizes the results and shows that regardless of whether a subject was classified as a high achiever or a low achiever on the basis of his paragraph meaning subtest scores in high school, no significant changes had occurred since graduation.

Results of the chi square test with correction for continuity indicated an association between direction of change and sex for the total group of subjects at the 5 percent level of confidence and for those who had not attended college at the 1 percent level of confidence. Since the greater number of gain scores was made by males, it was decided to administer t tests for correlated observations for males and females to see if either of these groups made a significant increase on the subtest on paragraph meaning. Results as shown in Table 3 showed neither significant differences for the males in the total sample nor for the subgroup of noncollege males, but, nevertheless, pointed out a trend for gain. The analysis

TABLE 2

Change in Scores on Subtest of Paragraph Meaning

Group	Mean grade equivalent			
	Student	Adult	df	t
All subjects (median 5.1)	5.57	5.68	59	ns
High achievers (above 5.1)	7.44	7.71	27[2]	ns
Low achievers (below 5.1)	3.85	3.86	29	ns
Noncollege subjects (median 4.6)	4.96	4.90	49	ns
High achievers (above 4.6)	6.32	6.13	23[3]	ns
Low achievers (below 4.6)	3.55	3.58	21[3]	ns
College subjects	8.61	9.60		

[1] Scores not significant at 5 percent level of confidence

[2] Two subjects omitted because scores fell on the median

[3] Four subjects omitted because scores fell on the median

TABLE 3

Change in Scores of Males and Females on Subtest on Paragraph Meaning

Group	Mean grade equivalent				
	Student	Adult	df	t	p
All subjects					
Male	5.78	6.31	27	ns	
Female	5.38	5.13	31	ns	
Noncollege subjects					
Male	4.29	4.53	21	ns	
Female	4.87	4.54	27	2.59	.05

for females disclosed no significant changes for the females in the sample. The subgroup of noncollege females showed a mean loss of .332 which was significant at the 5 percent level of confidence.

Intelligence quotients, which were available for 49 subjects, ranged from scores of 57 to 136 on the Wechsler-Bellevue Scale Form I (45 scores), Wechsler Adult Intelligence Scale (2 scores), and Wechsler Intelligence Scale for Children (2 scores). The mean IQ was 104.6. A separate analysis of the IQ's of the 42 noncollege students for whom scores were available indicated the same range, but a mean of 103.2.

IQ's were not significantly related to direction of change between student and adult grade equivalent scores on the subtest on paragraph meaning for the total group of 49 subjects for whom IQ scores were available (.189). Neither were significant relationships found for the 42 noncollege subjects for whom IQ scores were available (.151).

Word meaning. The differences between student and adult scores on the subtest on word meaning were significant for all the *t* tests for correlated observations which were computed. Both the total group of subjects and those who had not attended college made gains over their original scores significant at the 1 percent level of confidence.

High achievers in the total group of subjects and in the group who had not attended college made gains significant at the 5 percent level of confidence. Low achievers in the total group of subjects and in the group who had not attended college made gains over their student scores significant at the 5 percent level of confidence. The results of statistical analysis for all subjects are given in Table 4.

TABLE 4

Change in Scores on Subtest on Word Meaning

Group	Mean grade equivalent		df	t	p
	Student	Adult			
All subjects (median 5.0)	5.08	5.72	59	3.657	.01
High achievers (above 5.0)	6.17	6.96	28[1]	2.408	.05
Low achievers (below 5.0)	3.94	4.74	27[1]	2.383	.05
Noncollege subjects (median 4.75)	4.74	5.16	49	3.466	.01
High achievers (above 4.75)	5.62	6.13	24	2.724	.05
Low achievers (below 4.75)	3.86	4.18	24	2.116	.05
College subjects	6.77	8.54			

[1] Three subjects omitted because scores fell on the median.

The chi square test with correction for continuity showed no significant association between sex and direction of change in reading proficiency on the subtest IQ's correlated positively with direction of change in reading proficiency between student and adult grade equivalent scores on the subtest.

Discussion

It had been hypothesized that no changes in the reading skills of understanding paragraph meaning and word meaning would be found in adults who had been out of high school 7 to 13 years. Results, however, showed that the total group of subjects made gains on the subtest on word meaning, significant at the 1 percent level of confidence. No significant changes were noted for the subtest on paragraph meaning, although a trend for males to make greater improvement than females was found. When the 10 subjects who had attended college for one year or more were excluded from the sample and a separate analysis was made of the remaining 50 subjects, the results were repeated.

Evidently, the acquisition of new vocabulary by deaf students after high school graduation does not tend to remain static. Job experiences, social contacts, dependence on newspapers and magazines for information and pleasure, and greater maturity probably combine to influence vocabulary growth.

The lack of significant gains in paragraph meaning is clear evidence that deaf adults do not improve in their comprehension of the meanings expressed in paragraphs after they have left high school. Even the inclusion of the college student scores in the total sample did not change the findings concerning paragraph meaning, thus suggesting that the understanding of sentence patterns of the ideas expressed in connected language has remained stable. These findings are in agreement with the language research of Lenneberg (1966) and Stuckless and Marks (1966) who noted that vocabulary is the one factor of language which continued to develop into late adolescence.

The process of increasing vocabulary fluency is strengthened by degree of intelligence. Results indicated a positive correlation for direction of change in reading proficiency between student and adult grade equivalent scores and intelligency quotient. This finding held both for the sample which included former college attendants and for a subgroup excluding college attendants. The relationship between direction of change and intelligence quotient suggests that the more highly intelligent male or female deaf adult may take greater initiative in attacking new reading materials and learning new vocabulary in social and job situations.

Of interest was the finding concerning the direction of change in reading proficiency on the subtest on paragraph meaning and its relationship to sex. Since a greater number of males improved in the understanding of the meanings of paragraphs, an analysis of the test performances of males and females was made. The gains between student and adult grade equivalent scores of the males in the sample and of those males who had not attended college were not statistically significant. The losses of the females in the sample were also not significant, but an analysis of the grade equivalent scores of the females who did not attend college showed significant loss. When the grade equivalent scores of the males and females were combined, no significant change was observed. Analyzed separately, however, the grade equivalent scores indicate a trend for males to make greater improvement than females.

This trend suggests that males might possibly be subjected to a greater number of posthigh school experiences conducive to progress in reading and the understanding of ideas in paragraphs. Males may tend to be more frequently exposed to the necessity of communicating on the job, establishing contacts with the hearing community, and obtaining necessary information for the family. Deaf women, on the other hand, may tend to remain at home raising families or to hold jobs which require limited reading skill. Only 9 women in the sample of this investigation held jobs, for example, while 27 of the men were employed.

Although almost all of the deaf adults in the investigation had expressed confidence on their information sheets in an increase in reading proficiency since high school, the results of the subtest on paragraph meaning did not substantiate their opinions. Such results point out the necessity for the investigator's testing of the reading proficiency of adults rather than depending on the respondents' perceptions of their own reading skill. Nevertheless, the lack of attenuation in the subtest on paragraph meaning is a positive factor signifying that the deaf adult has at least continued to maintain his high school reading proficiency in the comprehension of the meaning of paragraphs.

As the results of this investigation have shown, the reading proficiency of a deaf adult may not always remain static. Consequently, rehabilitation workers should reassess each deaf client to determine his present reading proficiency and formulate goals for a client's rehabilitation program upon present reading skills.

To help the adult deaf make gains in reading proficiency, an immediate major implication of this study focused attention on the need for more adult education programs which encourage reading and language development. It is imperative that the development of language and reading skills be continued throughout adulthood to help reduce the wide language gap between the hearing and the deaf. Only major efforts to initiate adult education programs which include the teaching of reading and language will help the adult deaf fulfill their potentialities.

With the increase of scope of services for the adult deaf in the recent establishment of the National Technical Institute for the Deaf at Rochester, New York, and the regional vocational and technical high schools and colleges for the deaf, educators should attempt to discover improved techniques for promoting reading skills. Attention should also be directed to initiating a greater number of adult education programs for the deaf in conjunction with public school systems and community colleges.

The results of this investigation concerning the lack of growth in paragraph meaning and the increase in vocabulary fluency can also be utilized by educators in adult education programs and in classes for deaf students. Because students show consistent gain in the understanding of the meanings of words beyond adolescence, educators should continue to emphasize vocabulary growth in the school curriculum. But since no significant gains are observed in the understanding of meanings of paragraphs, a fresh look at present teaching methods is warranted. The teaching of vocabulary in isolation and the overemphasis of the teaching of principles of grammar in language classes should be questioned. Research is also necessary to determine the age at which grammatical skills should be introduced to the young deaf child and to discover whether educators should concentrate on language skills before introducing other subjects. Perhaps structural linguistics can offer educators of the deaf new insights for teaching connected language and the subsequent understanding of the meanings of paragraphs.

Research including intensive reading instruction for adults might assist in isolating instructional techniques which stimulate improvement in the understanding of the meanings of paragraphs and word meaning in adulthood. Of the 10 subjects in the sample who had attended college, for example, 6 showed gains on the subtest on paragraph meaning, 2 no change, and 2 attenuation. It would be advantageous to have more extensive research of the conditions which have contributed to improvement in the understanding of the meanings of words or paragraphs of both college and noncollege students. A knowledge of these conditions may aid educators in revising present curricula or establishing new approaches and techniques for facilitating the teaching of reading skills to students and adults.

Although this study did not specify the experiences which promote increased reading proficiency, the investigator, after observing the adults during the testing period, speculated reasons for improvement. A greater social awareness, curiosity about former deaf and hearing associates, an interest in communicating either orally or manually with hearing individuals, and a concern for improving job opportunities through continued education were frequently the characteristics of the adult who made reading progress. Thorough research of the various experiences which influence the reading achievement of deaf adults is necessary.

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A SYSTEMS APPROACH TO INSTITUTIONAL RESEARCH

by

Gerard G. Walter

Professionals holding positions relating to institutional research often complain that they do not have enough time to pursue systematic research programs, that much of their energy is expended reporting developmental information, testing the success of ongoing programs, collecting demographic information relative to various groups, or performing the duties of educational psychologist, social worker, or counselor--all important positions in an institution providing services for handicapped children. Persons occupying such positions often complain that they seldom have time to undertake research projects of a scientific nature. Perhaps an organizational structure based on the systems approach would assist the institutional researcher to organize his time and information input toward a maximum output. This method, in turn, may permit the researcher to allocate more time to scientific research.

The demand for some type of system stems from the fact that the institutional researcher is seldom required to follow the rigors imposed by the scientific method --of proceeding from problem to hypothesis to procedure and terminating in results and conclusion. Often he is asked to supply administrative officials with information relating to one or another variable.

He proceeds to collect relevant information and report the results to the administrative officials. This is not the traditional "scientific method," where research is defined as a systematic, controlled, empirical, and critical investigation of hypothetical propositions.

The fact that the scientific method is not followed does not detract from the position of institutional research as a legitimate realm of operation, provided some systematic method is used for carrying out the various projects. One definition of research is "a systematic, scientific investigation in pursuit of knowledge or confirmation in any field (Drever, 1961, p. 43)." A *systematic method* need not, necessarily, be the *scientific method*, but could be based on a systems approach. By systems approach I mean an orderly arrangement of components (or information) in a connected and interrelated series or whole. A systems approach seems to fit all the criteria of scientific research except the specification of hypothetical propositions. For this reason (nonincorporation of hypothesis) the systems approach may offer the institutional researcher a method for pursuing knowledge.

Let us now take a closer look at just what we mean by the systems approach. In its most elementary form, the systems approach can be diagrammed as in Figure 1.

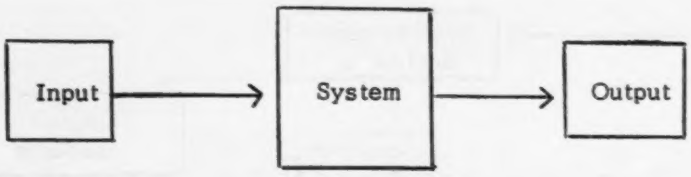

FIG. 1. Basic components of systems approach.

Throughout research we work with certain kinds of input; we organize the input, test it, manipulate it, and attempt to make some kind of sense out of it. Then we report the results (this we refer to as output). Such a simple model probably best describes the type of role often assumed by the institutional researcher. He interprets information so that the administration can utilize the output to make decisions based upon that output.

This model might also apply to scientific research except that there is a built in monitoring system that directs the type of input and the systematic progress of operations. In scientific research the hypothesis acts as the monitoring device. Such a systematic approach to scientific research might be diagrammed as in Figure 2.

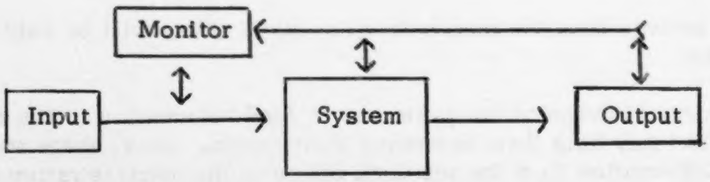

FIG. 2. Systems approach applied to scientific research.

Nonexperimental research does not usually have this monitoring component built in (in terms of hypothetical propositions) to direct the type of input, the systematic approach, and the mode of output. As such it is important that the objectivers of the system be defined so as to handle all types of input entering the system, and then to be able to deal with this input in a meaningful way. If some system is not utilized, input tends to become a chaotic jumble in a filing cabinet.

As such, the system is the most important element in the institutional researcher's model, while hypothetical propositions seem to be the determining factors in the experimental researcher's model.

Before an institutional researcher can develop a retrieval oriented system, the objectives of that system within a given institution must be clearly defined. The flow chart in Figure 3 describes such a possible system.

Administrative officials establish an office of institutional research based upon certain needs; they then call upon the office to provide information relevant to certain needs. The task of the institutional researcher is to develop a storage system that will satisfy the needs of the administration as efficiently as possible. If, after having set up a system, the researcher finds that certain information is not available or that efficiency is not optimal, then he must alter his system to meet specific demands upon the system. His system is determined by a set of objectives derived from the demands made by his institution. The storage system is

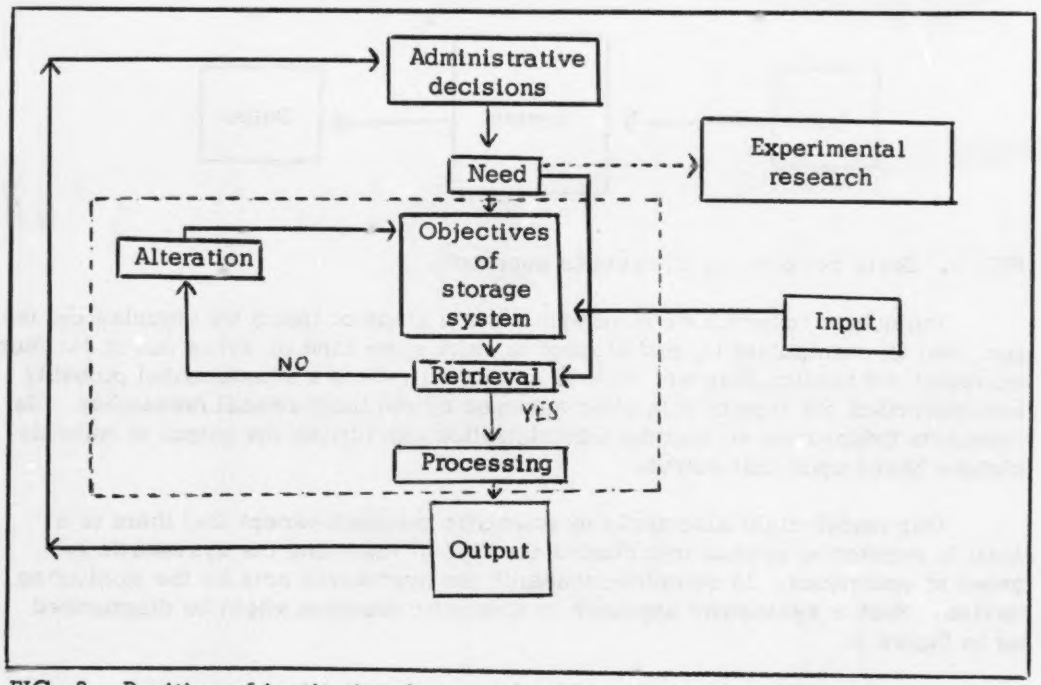
Administrative decisions
Need
Experimental research
Alteration
Objectives of storage system
Input
NO
Retrieval
YES
Processing
Output

FIG. 3. Position of institutional research with an institutional setting.

built up from input derived from the institutional setting. More will be said later concerning this point.

Another important function of the system is to feed information to the administrative officials that may help them determine their needs. Thus, there should be a constant flow of information from the research office to the administration based (a) on needs as voiced by the administration and (b) on output from the system alone--not based expressly on the needs of the administration.

In addition, a need, as expressed by the administration, may require an experimental treatment. In this case the researcher switches out of his storage retrieval oriented system into a system defined by the scientific method.

Since experimental research should be an important part of the institutional researcher's time expenditure, it is imperative that his storage and retrieval system be efficient enough to allow time for xperimental research. This being the case, let us now turn to the storage component of the system and consider it in depth, since it seems to be the heart of the system. Such a model can be divided into a set of basic elements: type of input, systematic storage, retrieval and processing, and output of information (Figure 4).

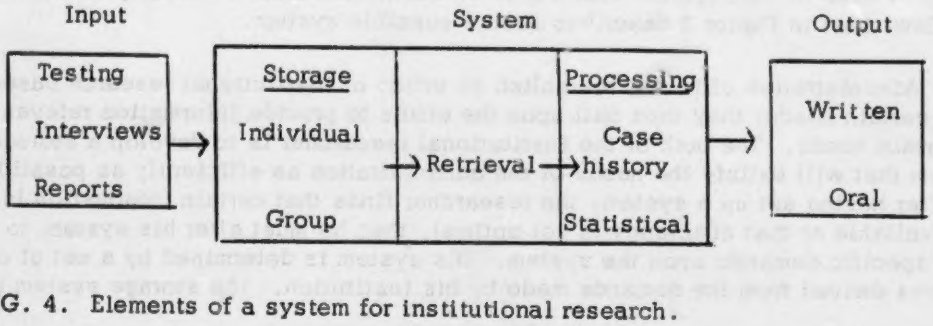
Input
System
Output
Testing
Interviews
Reports
Storage
Individual
Group
Retrieval
Processing
Case history
Statistical
Written
Oral

FIG. 4. Elements of a system for institutional research.

The input defines the various sources of information and methods of data collection. The second and most important element is made up of three parts: storage, retrieval, and methods of processing information. It should be noted that information is stored in two ways--individual and group. Storage in this way can reduce the time required for collecting or reprocessing similar information each time it is needed. It is important that the researcher have an access file on each student in his institution with all possible kinds of information contained therein. The file should contain not only individual information, but a person's various group affiliations and his positions within these groups. When the system is set up, the researcher's job becomes one of keeping the system up to date, adding new information, and utilizing the information in the system.

The idea of the systems approach may seem quite simple at this point. Let me present an example of an application of the systems approach at the National Technical Institute for the Deaf and then I will attempt to relate this to other possible institutional settings.

Research at the National Technical Institute for the Deaf (NTID) has as its primary responsibility, at the present time, the monitoring of student progress and the defining of correlates of this progress as students move through their various programs of study. As such, it is impossible to design and set up a hypothesis relating to all possible variables that could affect a student's success (or lack of success) at NTID. This does not mean that we cannot systematically study a wide variety of variables. Let us consider the flowchart in Figure 5 representing an outline of some of the variables under consideration at NTID.

If we consider a student (the self) as moving through time from left to right we see that various social structures influence the student and these structures are present throughout life, but with certain variations--high school becomes college and college becomes some kind of work. At NTID we are interested in evaluating our input (student) at entrance and the output (student) after graduation. We attempt to do this initially on an individual basis. We collect as much data as possible with reference to students and the structures we have defined: home, neighborhood, school. Such relevant information is kept up to date by remeasurement at various times throughout college and after graduation.

In addition to these basic social structures we have a certain set of variables that, taken as a whole, can be used to describe the self. These variables we call attributes of the self. These attributes can be broadly categorized as physical attributes, psychological attributes, and behavioral attributes. Using these three categories we feel that we are able to evaluate our students relative to NTID's objectives of "providing for postsecondary deaf students the opportunity to prepare for and to pursue semi-professional and professional level educational programs in science, technology, and applied arts that lead to successful employment in business, education, government and industry," and "to provide special support services within an institution of higher learning, which facilitate and encourage deaf students to achieve a high degree of personal, social and cultural development (NTID, 1967)." The questions being asked concern the relationships of the attributes of self to the factors of home, neighborhood, school, or work, and especially the effect of RIT-NTID programing on these variables. By measuring the variables at entrance, throughout school, and again after graduation, information relevant to the successful and unsuccessful student can be obtained.

Such a method of program evaluation is a complex task and requires the simultaneous monitoring of a multitude of variables. Yet, to design a study guided by the tradiational scientific approach is almost impossible if one considers the number of hypotheses that must be stated and tested, not to mention the

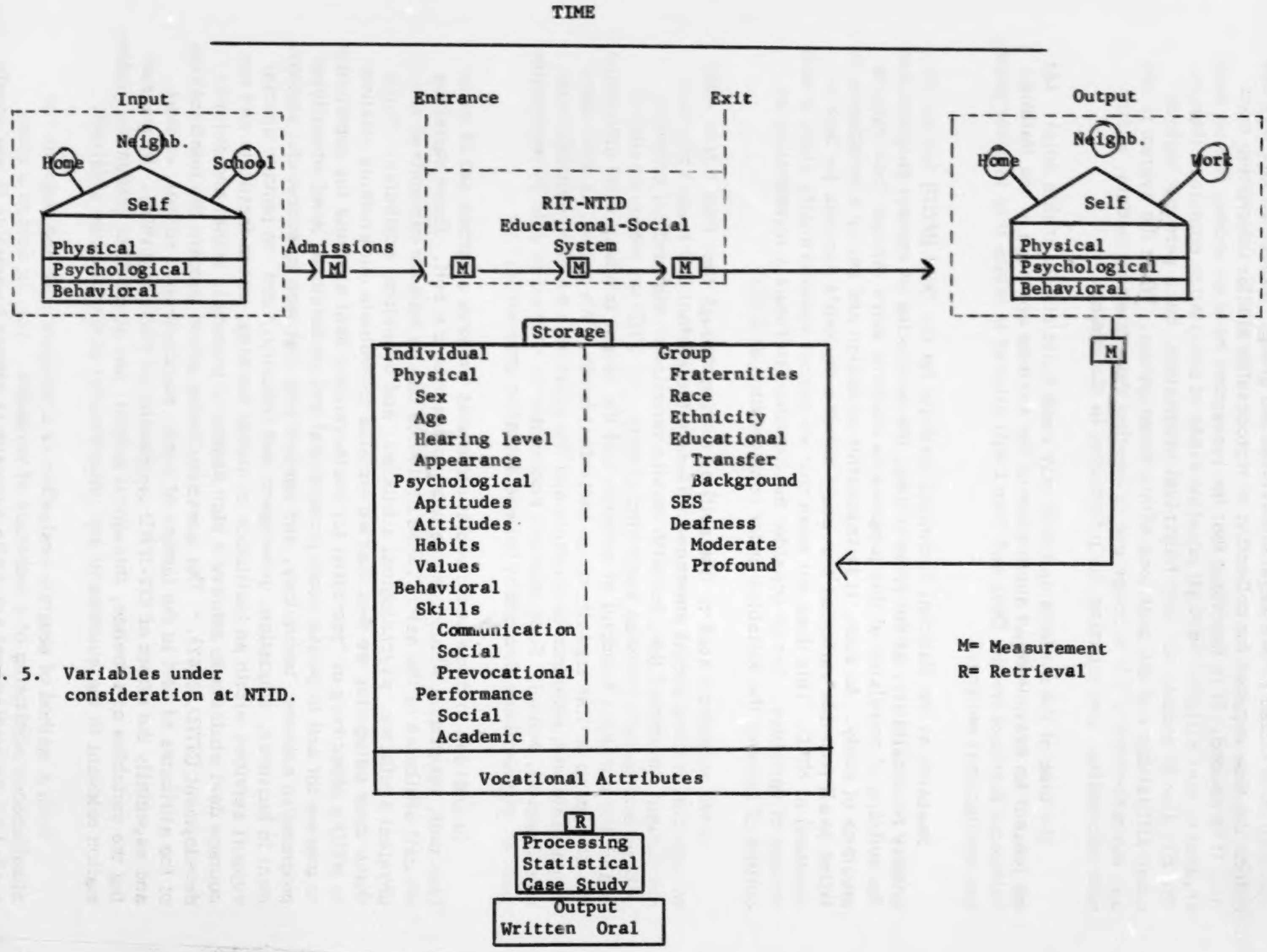
TIME
Input
Home
Neighb.
School
Self
Physical
Psychological
Behavioral
Admissions
M
Entrance
Exit
RIT-NTID
Educational-Social
System
M
M
M
Output
Home
Neighb.
Work
Self
Physical
Psychological
Behavioral
M
Storage
Individual
Physical
Sex
Age
Hearing level
Appearance
Psychological
Aptitudes
Attitudes
Habits
Values
Behavioral
Skills
Communication
Social
Prevocational
Performance
Social
Academic
Group
Fraternities
Race
Ethnicity
Educational
Transfer
Background
SES
Deafness
Moderate
Profound
Vocational Attributes
R
Processing
Statistical
Case Study
Output
Written Oral
M= Measurement
R= Retrieval

FIG. 5. Variables under consideration at NTID.

absence of a theoretical model within which to construct such hypotheses. Our primary goal is to evaluate a student or group of students relative to the objectives of NTID. That this is not the traditional scientific method is true, yet the method is systematic and objective, and provides a method of attack that forces the researcher to look at his population in a global way--his interests are not clouded by a narrow set of hypothetical propositions.

We do not advocate the elimination of the scientific method. Indeed it is utilized in many of our experimental programs at NTID. In experimenting with new methods of instruction the controls necessary for rigid interpretation are provided by the traditional approach. The point is that such control is seldom possible in much of what we call institutional research. As a result, the researcher is forced into acknowledging all possible variables that can influence his findings. The assumption is that it is better to collect a given amount of information related to given objectives, than to wish the information were available when it is unobtainable. The systems approach forces the researcher to scrutinize the information he is collecting relative to the overall objectives of his institution or a specific project under consideration. In addition, it forces the researcher to organize this information in such a way that it can be easily retrieved and processed.

The question arises as to the applicability of this type of approach to institutional settings serving handicapped children. In addition to providing a general method of organizing input it also has some other advantages: this approach permits a relatively quick description of the institutional population or any subgroup thereof, it provides a method of monitoring the progress of students along many dimensions, and it is relatively easy to maintain once it is set up.

Such a system has the advantage of permitting the institutional researcher to utilize all information on an individual student and to quickly relate it to relevant group information. This can be done by having within each student's folder information relative not only to the individual, but cross references to various group affiliations (school class, ethnic group, socioeconomic group, etc.). Such a system can reduce the time required in data collecting relevant to various projects that might be undertaken. In addition, any experimental studies undertaken (utilizing the institutional population) would have a ready made population description available.

The system approach forces the researcher to organize his information in a manner that increases retrieval efficiency. This, in turn, provides more time for the researcher to devote to experimental type projects. This point itself may be rationale enough for introducing the systems approach.

Such an approach can also have merit within an institution for the handicapped in relation to the fact that so much of the instruction is highly individualized. An information system modeled after the one proposed here can be an asset to persons responsible for planning individualized instruction, not to mention later vocational training or placement.

For some reason a good deal more information has traditionally been collected relative to handicapped children for purposes of decision making than information collected on "normal" children. The systems approach can provide a more efficient method of storage for this information. In addition, utilization of the information is facilitated if it is stored in some systematic manner. To stuff a student's folder with information is not enough. Knowledge of type and amount of the information available on each student will increase the specificity and quality of requested output.

In conclusion, we can say that the systems approach can offer the institutional researcher dealing with handicapped children a method of organizing his information toward a more productive output, while at the same time freeing him to devote more time to traditional experimental research. After all, development of programs should be based upon a need and a proven method for fulfilling that need. A systems approach may help to identify specific needs while at the same time providing information which will aid in developing a theoretical model. The experimental approach, in turn, can be utilized to test the theoretical model and to develop new methods of satisfying needs.

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UTILIZATION OF NONPROFESSIONAL PERSONNEL IN TEACHING LANGUAGE SKILLS TO MENTALLY RETARDED CHILDREN

by

Doug Guess, Gorin Rutherford, J.O. Smith, and Eugene Ensminger

Delayed speech and language skills among mentally retarded children constitute a major impediment to their social, emotional, and vocational adjustment. Recognition of this fact has stimulated the development of numerous diagnostic instruments and remedial programs directed towards the psycholinguistic abilities and needs of the mentally retarded child. Diagnostic instruments such as the Illinois Test of Psycholinguistic Abilities (McCarthy & Kirk, 1963) and Parsons Language Sample (Spradlin, 1963) have encouraged both educators and psychologists to attend more closely to the speech and language characteristics of the mentally retarded. Language development programs and materials such as the Peabody Language Development Kits (Dunn & Smith, 1965) have provided additional impetus for remedial language training in the classroom and similar educational settings. However, concomitant with the development of new and refined diagnostic instruments and the increased availability of language developmental materials, exists the traditional problem of obtaining sufficient personnel to implement effective language training programs.

The shortage of trained personnel needed to carry out speech and language programs is most acute in many of our residential centers for the mentally retarded. Trained speech personnel who do work in these centers are often required to spend much of their time doing diagnostic work. Time spent for individual therapy frequently evolves around problems of specific speech deviations, such as articulation disorders. Yet, it is in these same residential centers in which the need for large scale language programs is most pressing. In many cases the institutional environment seriously jeopardizes the acquisition and maintenance of communicative skills among the resident population. The effects of routinized living conditions, a low adult-child ratio, inadequate peer models to imitate, and insufficient reinforcement for verbal behavior all contribute to an arid climate for speech and language growth.

The Kansas Neurological Institute, like many other residential centers, was faced with the problems described above. With a population of around 400 children, the institution is allocated only one position for a professional person trained in speech and audiology. This person is not only responsible for the population within the institution, but he is often requested to do diagnostic appraisals of patients seen at the adjoining outpatient Child Study Unit. Obviously, the demands made upon this person do not allow him, in any significant manner, to meet the speech and language needs of the patients residing in the institution.

The research project which has emerged from attempts to resolve this dilemma is currently investigating one avenue by which institutions for the mentally retarded can widen the scope of speech and language services made available to their patients. The underlying premise of the project is that, provided effective materials, adequate training, and close consultation, nonprofessional persons can effectively teach speech and language skills to small groups of retarded children.

The program thus devised is not primarily directed at the remediation of specific speech defects such as articulation disorders, voice problems, or stuttering. It is aimed at the more global psycholinguistic and communicative deficits found in the majority of retarded children. Goals of the project are in agreement with Karlin and Strazzula (1952) who, in reference to speech programs for the mentally retarded, stated, "The basic principle of speech therapy is not the attainment of 'perfect' speech, but the development of everyday language needs (p. 294)." Accordingly, we refer to our teachers as "language developmentalists." This term has in recent years assumed more prominence in the literature concerning the mentally retarded even though it was advocated by Harrison (1959) as far back as 1959.

The remainder of this presentation will discuss, in some detail, our research project at Kansas Neurological Institute which is currently investigating the role of nonprofessional personnel serving as language developmentalists for mentally retarded children. The study presented today covers the first year of a 2 year research project cosponsored by the Kansas Neurological Institute and the University of Kansas. The project is funded by the US Office of Education, Department of Health, Education, and Welfare. This report will include the experimental design, subject characteristics, training of the language developmentalists, materials and rechniques used in the classrooms, and results obtained after the first year of operation.

Method

Setting. The project is being carried out in a state residential institution for the mentally retarded. The institution houses approximately 400 residents ranging from 3 to 25 years of age. The mean chronological age for the resident population is about 13 years. The majority of patients fall in the severely retarded range. Many have concomitant motor and sensory disabilities.

Experimental design and subject characteristics. Forty residents are participating in the language development program with an equal number of residents (40) serving as matched controls. Original matching of the subjects was based on chronological age, IQ, language age, and sex. This total group of 80 patients was further subdivided into four groups in order to provide a more valid interpretation of experimental effects.

Group 1: Language training and special education. This group is composed of 17 children who receive both language development training and special education at Kansas Neurological Institute. Special education classes are held daily and meet for approximately one hour. These classes range from preschool to about the third grade level. Most of the special education classes contain five to seven

TABLE 1

Subject Characteristics of the Four Experimental and Control Groups

Group	Total N	Chronological age		IQ		Mental age	
		Mean	Range	Mean	Range	Mean	Range
I. Language training and special education	17	12.17	8-16	39	17-58	4.58	2-7
II. Language training only	23	13.19	4-18	29	14-54	3.52	2-5
III. Special education only	17	13.48	10-17	36	15-57	4.72	2-8
IV. Neither language training nor special education	23	14.29	6-17	30	16-61	4.10	2-7
Total	80	13.28	4-18	33	14-61	4.23	2-8

children. They are taught by certified special education teachers hired by the Kansas Neurological Institute. The mean chronological age of group 1 is 12.17 years with a range of 8-2 to 16-0 years. Mean IQ for the group is 39 (Stanford-Binet, Form L-M) with a range of 17 to 58. Mean MA for the group is 4.58 years.

Group II: Language training only. This group of 23 children receives daily language training but they do not attend special education classes. Mean chronological age of the group is 13.19 years with a range of 4-1 to 17-9 years. They have a mean IQ of 29.43 years (range 14 to 54). Mean mental age for group II is 3.52 years.

Group III: Special education only. The 17 children of this group attend daily classes in special education but they do not attend language development classes. Mean chronological age for the group is 13.48 years (range 10-9 to 17-2 years). Mean IQ for the group is 36.24 years with a range of 15 to 57. They have a mean mental age of 4.72 years.

Group IV: Neither language training nor special education. This group of 23 children attend neither language development classes nor special education. Most of them participate in other therapeutic activities within the institution such as occupational therapy, recreational therapy, workshop, and chapel classes. (It should be noted that many children in the other three groups also attend these activities). The mean chronological age for group IV is 14.29 years (range 6-4 to 17-1 years). They have a mean IQ of 30.13 years with a range of 16 to 61. Mean mental age of the group is 4.10 years.

Measurement instruments. Standard instruments used to evaluate the study are as follows:

1. Stanford-Binet Intelligence Scale (Terman & Merrill, 1960).

2. Illinois Test of Psycholinguistic Abilities, Experimental Edition (McCarthy & Kirk, 1961).

3. Vineland Social Maturity Scale (Doll, 1947).

4. Mecham Language Development Scale (Mecham, 1956).

All four of these instruments were administered prior to the start of the program. The Stanford-Binet Scale and Illinois Test of Psycholinguistic Abilities were readministered approximately 9 months later. The full battery of tests will be administered again at the end of 2 years, the terminal date for the project. The tests are administered by staff psychologists at Kansas Neurological Institute.

Training for the language developmentalists. The two language developmentalists serving in the project had previously worked as psychiatric aides at the institution. Prior to the project neither had received any formal training in the areas of speech and language.

During the first month of the project, the two language developmentalists were given informal training by the project director and one of the principal investigators. Areas covered during this instructional period included speech and language characteristics of the retarded, normal language growth and development, the role of a language developmentalist, and operant learning theory. They were further made acquainted with the overall procedures and goals of the project and some of the instructional materials to be used in the classrooms.

Probably the most valuable aspect of the continuing training program consisted of the daily contact between the project director and the two language developmentalists. During these informal meetings the two language teachers had the opportunity to disucss with the project director any questions or problems they may have concerning the materials being used, classroom procedures, behavior problems, etc. At the start of the program, the project director spent considerable time in the classrooms observing the teachers and helping them improve their presentations of the materials. It should also be pointed out that feedback from the two language developmentalists has been an invaluable source of information in helping the project director perpare materials for the classes. Many times the excellent suggestions made by the language teachers have been incorporated into the daily class procedures.

Grouping of the classes. The 40 children participating in the language development program were divided into 8 classes of 5 children each. Grouping was determined by mental age and chronological age. One language developmentalist was assigned to the four highest groups, the other teacher assigned to the four lowest groups.

Each of the 8 language development classes met daily for approximately 45 minutes to one hour. Classes were held throughout the year.

Classroom materials. The four high level classes were initially taught from the Level #1 Peabody Language Development Kit (Dunn & Smith, 1965). The lessons outlined in the Level #1 Kit fairly well approximated the capabilities of the children in these groups. The Level #2 Peabody Language Development Kit (Dunn & Smith, 1966) is currently being used in the classes, following completion of the lesson series in the Level #1 Kit.

Finding materials suitable for our four low level groups has proven to be much more difficult. Initially, we used lessons from the experimental edition of the Pre-School Language Development Kit (Dunn, Horton, & Smith, 1968). For the majority of children in our low level classes, however, materials in the Pre-School Kit were too advanced. Attempts to simplify the lesson plans in accordance with the abilities of these children were, for the most part, unsuccessful. At this point we were forced to reevaluate the goals for our low level classes and establish, in order of precedence, those areas in most need of remediation. In consultation with the classroom teacher and project director, it was decided that future lesson plans should concentrate on the following areas:

1. Encourage the children to emit more verbal behavior during the class periods. We especially wanted them to use speech more in communicating with one another. During the initial months, most of the verbal interchange took place between teacher and child and not between peers in the classroom.
2. Increase their productive vocabulary including nouns, action verbs, adjectives, and prepositions.
3. Increase their response length in an attempt to develop the use of phrases and short sentences rather than the typical one word response used by most of these children.
4. Further develop their attentiveness to auditory stimuli and enhance their ability to discriminate between sounds.
5. Provide them with experiences which would help them realize the functional importance of speech in adapting to their environment. In conjunction with this goal, it was necessary to minimize the gestural and other nonverbal forms of communication primarily used by these low level children.

In order to meet these objectives, it was necessary to develop our own lesson plans specifically tailored to the needs of our low level classes. The project director assumed major responsibility for preparing these lessons.

Each lesson is usually composed of four sections. Time does not permit a detailed description of these lessons, but a short resume of each section will be given. The first section, Vocabulary Building Time, was designed to develop both the recognition and productive use of nouns, verbs, adjectives, and preopsitions. Five new words or concepts are usually included in each lesson. The children are first required to receptively identify the words, usually represented through pictures, and then they are required to name the word. Most of the pictures used for this section come from the Peabody Language Development Kits. We explored the use of colored slides to teach action verbs. Pictures of the children themselves, engaged in various activities, were used as the visual stimuli.

The second section of the daily lesson, Activity Time, was directed to acting out various tasks or commands and verbalizing the ongoing activity.

The third section consisted of Conversation Time in which children were placed in situations where they must talk to each other. Most typically, they were required to give simple commands to one another.

The fourth section, which was optional according to the remaining time available, pertained to Sound Discrimination exercises. The children were required to identify and produce various sounds representing phonemes, words, or familiar noises in our environment.

The lesson plans developed for our program made optimal use of teaching aids such as tape recorders, overhead projectors, slide projectors, and a variety of different objects.

One of the most important aspects of the program was the use of reinforcement techniques, which will be explained more fully in the next section.

So far approximately 175 daily lesson plans have been developed. Three of our low level classes have now progressed through 125 of these lessons. The most advanced class in our low level group was shifted to the Pre-School Language Development Kit.

Token reinforcement system. A token reinforcement system was gradually introduced into all of the eight classes approximately 6 months after the start of the program. Implementation of the token reinforcement system involved a fairly extensive training process for the two language developmentalists in the procedures and techniques of behavior shaping. Much of this training took place in the classrooms, supplemented by informal discussions and reading materials on behavior modification. The token system was utilized in two major ways: to shape and maintain desirable or correct responses to the materials and to decelerate maladaptive or disruptive behavior occurring in the classrooms.

Tokens were dispensed by the teacher for correct or approximated responses by the children, depending on their abilities. The tokens were dispensed immediately after the response occurred. In many cases, tokens were used to shape more appropriate responses emitted by the children. For example, a child may be given one token for correctly labeling a picture of a telephone. However, several tokens may be given to the child if his response includes one or more words (e.g., "this is a telephone").

At the onset, progress in several of our classes was impeded by the occurrence of numerous disruptive behaviors, many of which are typical of classes for low functioning retarded children. These disruptive behaviors included talking out, out of seat, screaming, scraping or pounding feet, playing with furniture, burping, whistling, inappropriate laughter, turning around in chair, and hitting, pinching, or pushing other class members. The token system was used in two ways to reduce the frequency of these behaviors. First, the child may be penalized by the removal of one of his chips, contingent on the occurrence of a disruptive behavior. Second, and the most effective procedure, was to give tokens to every other child in class who is not engaging in a disruptive behavior. For example, if one child is inappropriately out of his chair, all other children receive tokens for remaining seated.

Felt pockets were pinned on the children when they first entered the classrooms. The tokens were placed by the teacher directly in the pockets when the child was being reinforced. In our four low level classes, the tokens were exchanged immediately after class for a variety of sweets or small toys. For example, an M & M can be purchased for one token, a piece of bubble gum may cost three tokens, cookies usually require five tokens.

A slightly different procedure was used in our high level classes. Tokens were exchanged at the end of each class period for blue tokens. It took 10 non-blue tokens for one blue token. The blue tokens must be saved until Friday, at which time they were redeemable for a variety of sweets and objects. An exception was made for one class of younger children who have the option of trading each day of the week. Prices ranged from 1 to 35 blue tokens and include such items as small pieces of candy, balloons, pencils, comic books, key chains, scarves, hats, necklaces, socks, balls, pictures of themselves, ball point pens, games, toys, and a wide variety of novelty objects.

The children may have to save their blue tokens over several weeks to purchase some of the high priced items. They all kept their blue tokens in the classroom. At the end of each class period they hung their tokens on the wall below a tag with their name on it. The tokens were interlocking and can thus be chained together.

Results

The interim progress evaluation period covering the first 9 months of the program has just been completed. The Illinois Test of Psycholinguistic Abilities (ITPA) and the Stanford-Binet Intelligence Test were readministered to all 80 children in the four spearate experimental and control groups. As can be observed, those children who received both language training and special education made the most gains on the ITPA. Other groups, in order of raw score increases, were special education only, language training only, and neither language training nor special education. The 40 children in the total language training sample (groups I and III) gained slightly more on the ITPA than the total control group sample (Groups II and IV).

A nonparametric statistical test, the Mann-Whitney U Test (Siegel, 1956), was used to compare ITPA raw score increases between the four experimental and control groups. Due to the large number of subjects in the various groups, it was necessary to transform the U value into a Z score in order to find the level of statistical significance between the groups.

TABLE 2

ITPA Total Score Increases for the Experimental and Control Groups

Group	Initial scores		After 9 months		Increase	
	Mean raw score	Language age	Mean raw score	Language age	Mean raw score	Language age (months)
I. Language training and special education (17)	70.23	3-8	81.76	4-1	+11.53	+5
II. Special education only (17)	73.70	3-10	84.00	4-1	+10.30	+3
III. Language training only (23)	52.65	3-2	61.17	3-5	+ 8.52	+3
IV. Neither language training nor special education (23)	55.74	3-3	61.43	3-5	+ 5.69	+2
Total language training (40)	60.12	3-5	69.92	3-8	+ 9.80	+3
Total control (40)	63.37	3-6	71.02	3-9	+ 7.65	+3

TABLE 3

Comparison of ITPA Score Increases Between the Experimental and Control Groups

Groups	Z value	Level of significance[1]
Language training and special education vs neither language training nor special education	1.69	$p < .04$
Language training and special education vs language training only	.76	$p < .22$ ns
Language training and special education vs special education only	.65	$p < .25$ ns
Language training only vs neither language training nor special education	1.00	$p < .15$ ns
Language training only vs special education only	.02	$p < .48$ ns
Special education only vs neither language training nor special education	.68	$p < .24$ ns
Total language training vs total control	1.27	$p < .10$ ns

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[1] Significance levels computed for one tailed tests.

Table 3 presents a comparison of the ITPA score increases between the groups. The only statistically significant difference was found between the language training and special education group versus the group composed of children attending neither language training nor special education ($p < .04$). ITPA score increases between the total language training groups versus the total control group showed a definite trend in favor of those children attending language classes, but results did not reach the accepted .05 interval of statistical conficence. IQ score changes, as measured by the Stanford-Binet Test, are presented as Table 4. Group I, composed of children who received both language training and special education, demonstrated the greatest IQ score increase (+3.00 IQ points). The language training only group closely followed with a mean IQ increase of 2.78 points. The special education only group gained 1.94 IQ points during the 9 month period. Group IV (neither language training nor special education) showed a slight decrease in IQ scores over the same time interval. The 40 children in the total language training group (groups I and II) showed a higher mean increase in IQ scores than did the 40 children in the total control group (groups III and IV).

A comparison of IQ score increases between groups can be observed in Table 5. Again, the Mann-Whitney U Test was used to compute differences between the groups. The greater gains in IQ scores evidenced by the language training and special education group as compared to the group receiving neither language train-

TABLE 4

Stanford-Binet IQ Score Increases for the Experimental and Control Groups

	Mean IQ Scores		
	Initial	After 9 Months	Difference
I. Language training and special education (17)	38.82	41.82	+3.00
II. Language training only (23)	29.43	32.21	+2.78
III. Special education only (17)	38.17	40.11	+1.94
IV. Neither language training nor special education (23)	30.13	30.08	- .05
Total language training (40)	33.42	36.30	+2.88
Total control (40)	33.55	34.35	+ .80

TABLE 5

Comparison of Stanford-Binet IQ Score Increases Between the Experimental and Control Groups

Groups	Z Value	Level of significance*
Language training and special education versus neither language training nor special education	4.80	$p < .0003$
Language training and special education	.00	$p < .50$ ns
Language training and special education versus special education only	.51	$p < .30$ ns
Language training only versus neither language training nor special education	1.75	$p < .04$
Language training only versus special education only	.51	$p < .30$ ns
Special education only versus neither language training nor special education	.65	$p < .25$ ns
Total language training versus total control	1.68	$p < .04$

*Significance levels computed for one-tailed tests.

ing nor special education was reflected in a highly significant p value of less than .0003. Statistically significant differences were also found between the language training only group versus the group receiving neither language training nor special education ($p < .04$). The remaining comparisons between subgroups showed no significant differences in IQ score changes. Finally, the total language training group achieved significantly greater IQ score increases than did the total control group ($p < .04$).

Discussion

The interim results of progress for the first 9 months of classroom training as measured by the ITPA and Stanford-Binet Scale are highly encouraging. We had hoped for greater increases on the ITPA for those children attending language training classes. Yet we can see a definite trend in favor of the language training groups, and we predict these changes will become even more prominent in the months to come.

Results from the Stanford-Binet test give considerable evidence that our program is developing a greater language facility among those children attending language training classes. The modest yet significant gains in IQ scores among those children attending language training classes when compared to the total control group supports this contention. We realize, of course, that the Stanford-Binet test is primarily an instrument measuring verbal skills. Indeed, this is why it was included as part of the test battery.

However, the initial months of the Language Development Project have identified a number of problem areas and deficiencies in our program. First and most obvious is the fact that planning effective language training programs for severely retarded children is not an easy endeavor. For this type of child it is not enough just to bombard him with a wide variety of materials and hope that somehow he will appropriately respond to them. We initially tried to do this in our low level classes. It became apparent, however, that children were lacking in the necessary language skills to enable them to generalize what little knowledge they had to a heterogenous array of psycholinguistic areas. On the contrary, we found it necessary to confine the program to a delimited number of deficit areas and plan systematic lessons aimed specifically at the remediation of those areas. The use of fading and shaping procedures, common to behavioral theory, seem to be the most valuable teaching techniques available in achieving those goals deemed important for the language growth of severely retarded children. We feel we have come a long way in preparing the types of language materials and lesson plans which systematically instruct the child in certain areas of language growth. Yet we continually perceive the necessity for materials which are even more programed and directed toward specific psycholinguistic areas.

Our token reinforcement system has drastically changed, in a positive way, the ability of our language developmentalists to teach language skills. Widespread behavior problems have virtually disappeared from our classrooms. The children are more attentive to the lessons and all seem to derive real enjoyment from the classes. Our major problem in this area is the use of noncontingent food reinforcement in other settings within the institution, which seems to reduce the reinforcing value of chips for a few of our children. Persons who lack a real understanding of the principles of reinforcement theory indiscriminately use sweets when working with the children. They may almost continually feed a child to keep him "contented," or they may satiate the child with food at the end of an activity program in the hopes this will make the child more willing to come next time. Many of these incidents occur under the guise of "operant conditioning." In any case the problem is a difficult one to deal with, and a solution would likely demand a massive educational program within the hospital.

One of the major deficiencies in our program has been in the evaluation of progress. Standardized instruments currently available to us are really too gross to detect many of the subtle changes we hope are occurring among our groups. Numerous personnel within the hospital have mentioned to us that children going to language classes are talking more and better. This, of course, is one of the primary objectives of the program. But we have no easy way to assess this observation, nor do we have the personnel needed to make objective observations. Many other data need to be collected in the areas of grammatical morphology and syntax, response length, and so on. When writing our grant request, we neglected to include classroom observers which would have enabled us to assess, in more detail, the progress we believe to be taking place in our classes.

In spite of our problems and deficiencies, we are demonstrating a very important point--that nonprofessional personnel can be trained to augment the speech and language services currently available in our institutional setting. And, most important, we find they can do an excellent job in this emerging role. For many professional workers this is possibly threatening, yet, conceived in a broader perspective, the utilization of nonprofessional personnel as language instructors is a more realistic approach to the treatment of institutionalized retarded children. This utilization places the speech pathologist and speech clinician in a different role, that of an educator and teacher rather than the sole person who has the training, skills, and knowledge for working with the language deficiencies of retarded children. The speech clinician is freed to work on more difficult speech and language problems whils still having the opportunity to direct and guide widespread language programs. It is not sufficient, of course, to merely give nonprofessional personnel some materials and say, "Now go teach language." The speech clinician must actively participate in training and continually work with the language developmentalists. Ingenuity, competence, and persistence are required both in preparing and selecting the right materials and in training the language developmentalist to make effective use of them.

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SPECIAL

ABSTRACT

CAN INVOLVEMENT COUNT?

by

Arthur A. McElroy

By personal involvement, what kinds of programs can be evolved?

The previous year, and probably others, the Student Council for Exceptional Children at our university was predominantly a social organization for graduate students. While this is one desirable aspect of the organization, it should not be the only one.

Several members felt that something needed to be done to broaden the role of SCEC. One recurring theme was to develop a program to assist students new to the university, which in turn led to our "Big Brother Program."

The "Big Brothers" were those students returning to the university the following year. It was agreed that the "Big Brother" would write a letter of introduction and welcome and offer assistance to the new student. The names of the new students were obtained from the Special Education file as well as from faculty members. Each new student was assigned a "Big Brother" in keeping with the new student's primary interest.

An orientation program for new students in Special Education was organized. The department chairman introduced the faculty members and presented the new organizational structure. He also established the placement of Special Education in the College of Education.

The directors of different projects gave an outline of their programs and services. These included the Northwest Regional Special Education Instructional Materials Center, the Rehabilitation Research and Training Center in Mental Retardation, and the Engineered Learning Project.

A student-staff picnic was planned which provided an opportunity to get to know the new brother as well as introduce them to other friends and staff members.

The "Big Brother Program" has been successful this school year and plans are being made to continue it next year.

The second topic which received attention was the formation of a State Student Federation of CEC. The organizational meeting was held in November 1968, with faculty advisors, officers, and other interested individuals from the three student chapters present. The formation of the Oregon Federation gives us representation at the national level and a voice on the SCEC Board of Governors.

The third area of interest has been the involvement of undergraduates in SCEC. This has been done by personal invitation, selection of undergraduate candidates to run for each office, and announcements. There has been an increase in undergraduate memberships, but this area needs more concentrated effort in the future.

The evolvement of this year's programs has proven that personal involvement counts.

CEC AS A PROFESSIONAL ORGANIZATION AND ITS RELATION TO THE STUDENT OF SPECIAL EDUCATION

by

Merrick L. Sokol

This paper is based upon my observations and thoughts, both as a student of special education and as chapter president of the Boston University Council for Exceptional Children. In tying together the theme of this panel, "Student Evolved Methods for Creating And Maintaining Interest and Action in CEC," with my own theme, I wish to base my discussion on two points which I feel are of importance. These include a description of the student of special education, as observed by myself as a student of special education, and the way in which CEC plays an important role to those students of special education who take advantage of its offering. The second point that I wish to stress is that of the role of communication used within CEC and how, if used effectively, it will produce results in creating and maintaining interest and action to the functioning of the organization. I would like to point out at this time that the generalizations I refer to in my discussion may or may not apply to students of special education at other colleges or universities.

The student of special education at Boston University enters a 4 year course of study aimed at preparing him for future work with mentally retarded children and adults. The first 2 years of this program involve courses in the liberal arts fields (history, geography, art appreciation, psychology, etc.). As a result, these students have no contact with the events in and organizations of the School of Education and, by the end of the second year of the program when the students are preparing to start concentration on their major course of study, special education, there appears to be a complete loss of identification with the School of Education among 90 percent of the students. With this problem prevalent, the channels of communication between the freshmen and sophomores and juniors and seniors with respect to student participation in departmental activities, such as student-faculty curriculum committees, are limited to the extent that only upperclassmen were included. Hence, special education departmental unity is comprised of two factions, isolated underclassmen who literally have nothing to co with the School of Education until the beginning of their junior year, and upperclassmen who are totally involved in the special education program and who sit on committees and work along with the faculty of the special education department.

Since at this time it is not my purpose to go into depth to formulate any solutions to the above situation, I would like to introduce the role CEC as a professional organization would have in bringing closer unity between the underclassment and upperclassmen in the department of special education.

In one respect CEC may be defined as a professional organization whose members include members of the teaching profession who work with exceptional children of varying degrees. Students of special education should be made aware of this point of professionalism of the organization as opposed to other organizations found on the campus of their university that function as clubs or social organizations. Once the fact is established that CEC is a professional organization open to the student of special education, it may then serve the purpose of acting as an identifying agent to these students in that now the students have a professional organization with which they may identify and which also may serve the function of unifying the freshmen and sophomores to those in their junior and senior years. In addition, CEC helps introduce special education students who are not as yet taking special education courses, such as freshmen and sophomores, to those students who are involved more deeply with the special education program, juniors and seniors.

In addition to being exposed to other students in the same field of study, CEC provides the opportunity for the student of special education to come into contact, through meetings and conventions, with professional personnel such as professors, psychologists, psychiatrists, administrators, and others. CEC, in some instances, has stimulated students to plan programs that involve going out into the field and working with handicapped children.

Up to this point I have tried to present a description of the student of special education from my own observations as a special edcuation major. At the same time I have tried to show how CEC as a professional organization, when introduced into the sphere of the special education student, may influence the student's perception of his field of study by opening up new and otherwise overlooked areas dealing with special education and the whole field of mental health in general.

For the second part of my discussion I wish to focus upon the use of effective channels of communication between the officers and members to initiate and maintain interest and action within the chapter. The first point that I would like to bring up involves establishing a close rapport between members and officers to inform members of current and future plans within the organization and hence play an active rather than passive part within CEC. I have stressed this point to members of my own chapter, indicating that when a person joins CEC and pays his membership dues, he is entitled to all the privileges of an active role within the organization. By this I mean he has the opportunity of running for and holding office within the chapter as well as serving on committees to initiate programs for chapter meetings. Also, he must be made aware that he has the opportunity to participate within CEC on the national level by running for national offices. Without effective channels of communication to cause members to be aware of this, it becomes difficult for the members to identify with the role of CEC and hence no real meaning arises and the student remains a passive member who will occasionally attend meetings but not receive full benefits of belonging to CEC.

In my own chapter I have tried to remedy the problem of ineffective communication by establishing committees staffed by members which give a chance to all those who wish to participate in the functioning of the chapter. The committees cover the following areas: program planning, publicity, membership, and freshmen, sophomore, junior, and senior class representatives. In addition to monthly chapter meetings, there are planned committee meetings of those mentioned above which function to evaluate the chapter meeting and plan for future meetings.

In addition to having members of the School of Education in the department of special education participate in the chapter, I have expanded the chapter's influence to include members from other schools and fields of study in the university. These include the fields of psychology from the College of Liberal Arts, occupational and physical therapy from the College of Allied Health Professions, and elementary and secondary education from the School of Education. In this way CEC need not be limited to the department of special education whose students concentrate in mental retardation and speech and hearing, or graduate students in mental retardation, speech and hearing, learning disabilities, and emotional disturbance, but can include students from other fields of study who express interest in participating in a professional organization . From what has been said the Boston University Chapter of The Council for Exceptional Children has expanded from an intercollege professional organization to that of an intracollege professional organization. By expanding CEC's influence to other schools and colleges within the univeristy, CEC has developed from an almost unknown organization--known only to upperclass students within the department of special education--to a university wide organization involving students from many different fields of study within the different colleges within the university.

I have found from my own experience in working with CEC both as a vice president and as president that once an effective rapport is established with all members it is the duty of the president as well as those on the steering committee to plan and provide for a workable program with appealing activities so that all members are encouraged and motivated to contribute toward the functioning of the chapter in such a manner that members and perspective members will find a purpose to join CEC as well as identify with CEC as a professional organization.

ABSTRACT

EDUCATION OF THE PHYSICALLY HANDICAPPED: AN URBAN APPROACH

by

Howard Marr

In keeping with its image, Clark County School District, Las Vegas, Nevada, took a gamble in 1958 that has paid off for its physically handicapped. Of a present school pupulation of 70,000 only 52 physically handicapped children receive special education in a separate setting. By enforcing strict evaluative criteria of eligibility for transferring students to its physically handicapped classes, Las Vegas has been able to provide equal educational opportunities for the great majority of physically handicapped students within the regular educational program offered within its system of 85 schools. The tough rules of entrance to its special school for the physically and multiply handicapped have caused regular school personnel, pupil personnel services, community health agencies, etc., to jointly develop a cooperative approach to the solution to the problem of the physically handicapped in a regular school program. This is a Las Vegas "gamble" that has paid off.

Of the presently enrolled 52 physically handicapped students in Variety School for Special Education, all qualify as seriously handicapped physically to such an extent that without specialized handling, care, teaching equipment, and methodology, they would be declared nonpublic school children or at best receive instruction by a visiting teacher. Eleven children are diapered at Variety School each day. Special hydraulic lift buses transport wheelchairs to and from school within a total county area comprising 8,000 square miles. Classroom pupil-teacher ratio is 13-1 maximum with an assigned teacher aide.

Children are grouped as average or above in ability within a K-12 structure. The program is composed at present of one K-3, one 4-6, and one 7-12 classroom with the fourth enrolling all MR/PH students. Curriculum in the first three classrooms follows closely that offered throughout the school district. The 7-12 classroom is an auditory contact with selected classrooms within a nearby junior-senior high school permitting physically handicapped (PH) students to become part of daily instruction in secondar subject areas by a mere "flick of a switch." Teachers assigned to both these schools visit the secondary PH classroom periodically as resource personnel to both students and teacher. A high school diploma is thus offered PH graduates.

Under the philosophy that "only the severe PH student requires special class instruction," then once entered in Variety School, the PH student receives all the resources that the Clark County School District can provide. A per-pupil apportionment of approximately $2,9500.00 per year for each of the 52 pupils is allocated. This compares to an annual $612.00 per pupil cost in regular classes. In addition to small class size and an additional paraprofessional assigned each classroom, Variety School provides the following ancilliary services to the PH program:

1. Fulltime special education administrator/coordinator
2. Fulltime registered physical therapist
3. Fulltime psychiatric social worker
4. Fulltime speech and hearing clinician
5. Available medical personnel (pediatrician, orthopedist, neurologist, and psychiatrist)
6. Visiting clinical psychologist
7. An in school and out of school work experience/training program
8. A fully equipped Instructional Materials Center on campus with specialized equipment and materials.

The Clark County School District also operates a homebound program composed of 10 visiting teachers and one head teacher. Not only do these teachers visit homes and hospitals, but also they are responsible for the Young Adult Center Program (pregnant girls) as well. All personnel must qualify for a regular and special education certificate before acceptance as a homebound teacher because a unique feature of the program is the acceptance of special education homebound pupils. Pupils are not only visited by the teachers, but may be part of the "Tele-Teaching" segment of the program which provides a voice communication from the former classroom of the pupil direct to his bedside. Only children expecting to return to their classrooms are eligible to enter the homebound program.

In considering the above, a few facts about Nevada are in order. Of the utmost importance in the success of PH children remaining within the regular program is the physical structure of most of the 85 schools. With few exceptions, all are single floor structures, modern in design, with few steps. Another significant point in the origination of both the philosophy and the ensuing Variety School and Homebound Program was the need to develop community programs for the seriously physically handicapped because of the complete absence of any public or private residential facility in the state.

Las Vegas was forced to "gamble." The "gamble" this time has paid off in many benefits to the physically handicapped child.

FAMILY INVOLVEMENT IN EDUCATING THE HANDICAPPED: UTILIZING RESEARCH FINDINGS FROM THE CULTURALLY DISADVANTAGED

by

Merle B. Karnes

In our complex society the horizons of the school must extend beyond the confines of the classroom, and the traditional notion that only the professional teacher is capable of educating the child is becoming outmoded. It is imperative to provide handicappdd children with every educational advantage to enable them to compete successfully with their normal peers and to progress academically commensurate with their abilities. When one stops to consider that parents and siblings for that matter have been the prime educators of the handicapped child prior to his school attendance, it is paradoxical to assume that when the child enters school, the family should no longer play a part in his education. On the contrary, the role of family members as educators of the child should not be denied or diminished at such a time, and it is presumptuous to assume that the school can or should be totally responsible for the child's educational progress or lack of progress. In fact, it seems only logical to expand the school and teacher to include training members of the family to work more effectively with their handicapped child.

It is clear to me, as I am sure it is clear to you, that parent or family involvement programs in special education are far from ideal. Because I was dissatisfied with the role the families were playing in the education of the handicapped in the special education programs under my direction in public schools over a period of 12 years--programs for the deaf, for the partially sighted and blind, for the mentally and physically handicapped, for the social-emotionally maladjusted, and for those with speech defects and learning disabilities--I have recently been conducting research on the effects of involving various members of the family in the education of the preschool disadvantaged child. It is my belief that these ideas are applicable to the various programs for handicapped at varying age levels. In other words, what we learn from working with one segment of the school population can often be transferred to another segment.

These research programs for training members of the family to teach young disadvantaged children began with certain assumptions: (a) various members of the family can acquire competencies to teach disadvantaged children following a curriculum developed by professionals; (b) the instruction at school of professional staff members can be reinforced and expanded at home, and the young disadvantaged child's motivation to learn will be enhanced when family members help in his instruction; (c) parents and siblings will come to feel more adequate in the role of teachers as they acquire effective ways of working with the disadvantaged preschool child; (d) teachers can be retrained to function in an expanded role which involves training of families to instruct their preschool child; (d) professional teachers, as an outcome of training members of the family to teach their preschool children, will gain greater insight into the special needs of the disadvantaged child and his family and will enhance their abilities to work and relate effectively with these families; (f) training members of the family will sharpen the teaching skills of the professional teacher.

Projects for Involving Disadvantaged Families in the Education of Their Preschool Children

In the early spring of 1965 a series of four projects for involving members of the family of the preschool disadvantaged were begun at the Institute for Research on Exceptional Children, College of Education, University of Illinois. These projects were designed to evaluate the effectiveness of intensive family involvement upon the intellectual and language development of the young disadvantaged child.

Training mothers of disadvantaged families to teach their preschool children at home. In the first project (Karnes et al., 1968a), the young 3 and 4 year old children did not attend preschool. Instead, their mothers attended 11 weekly 2 hour sessions conducted at a neighborhood elementary school by project teachers. Mothers, as part of the teaching team, were paid $3.00 a session for their participation but received no remuneration for thetime spent working with their children at home. At the beginning of each session the mothers, with teacher help and direction, made educational activities from inexpensive materials to use the following week in teaching their young children at home: a sock puppet, a flannel board, lotto and matching games, and counting and classifying scrapbooks. In addition, children's books and puzzles were available on a lending library basis. A discussion of appropriate ways to use these materials at home followed each work period. Teachers discouraged the view that they were authorities from whom directions issue and worked to achieve cooperative planning and to incorporate suggestions from the group. During a coffee break, mothers informally reported on their success or difficulty with the previous week's teaching assignment. They discussed differences among their children and ways to adapt materials to accommodate such differences.

Teachers made home visits to provide materials made by the group for mothers who had been absent, to help individual mothers who appeared to have teaching problems, and to evaluate the appropriateness of the activities by observing mother and child at work. Because each mother had made her own instructional materials and understood their use, she approached the teaching of her child with confidence. She could readily observe the progress of her young child, and both mother and child were immediately rewarded for their mutual efforts.

The intellectual and language development of the children whose mothers participated in the training program was compared to that of a control group in which neither mothers nor children were involved in an educational program. The children of the mothers who received the training made significantly superior progress to that of the children whose mothers were not involved in a training program.

Such an approach can be adapted for use with parents of any socioeconomic levelwho have children with various handicaps. If the child were blind, materials might emphasize tactile, motor, or auditory learning. If the child were deaf, instructional materials might be primarily visual or tactile-motor in nature. The success of the program, however, can be assured only by actively involving the parents as part of the instructional team.

A similar program involved the training of mothers of infants. The 2 hour weekly session was handled somewhat differently. The first hour was used to discuss problems parents experienced with their infants. The teacher guided the discussion, but the topics discussed were selected by the parents and the solutions were drawn from the group as the teacher encouraged parents to think through the problem.

The school provided a lending library of toys, puzzles, and books for the parents to check out weekly to use at home to stimulate the development of their infants. The following week, parents would share with each other the uses they had made of the toy with their infant. Professional staff supplemented these suggestions, summarized discussions, and emphasized major values in particular toys.

While this program has not been evaluated as yet, these parents felt the meetings were beneficial and requested that the group reconvene the following fall. The implications of this program for working with the parents of very young handicapped children cannot be overemphasized. Authorities such as Hunt (1964) state that the strategic age for intervention may be during the preschool years. Many handicapped children have environmental disadvantages associated with their particular handicap. If these disadvantages can be compensated for and if remediation can take place during the preschool years, the handicapped child may later make improved academic progress and exhibit better all around adjustment.

In the fall of 1967, the mother training project was expanded and incorporated into an existing preschool program for disadvantaged children. Again, mothers were paid $3.00 a session to attend weekly 2 hour meetings with the preschool teachers of their children. Teachers encouraged mothers to feel that their assistance was needed to support and extend the educational goals of the preschool.

At the beginning of each meeting the mothers again made materials to use during the following week in teaching their children at home. Generally, materials were chosen to reinforce content currently being taught at the preschool--materials which emphasized language development, basic manipulative skills, and math readiness concepts. A discussion of appropriate ways to use these materials at home followed each work period. When a mother was absent, the other mothers made the materials for her and the teacher delivered these and the instructions for their use the following day.

Classroom dynamics were conspicuously altered by the support which school activities received at home. Early in the year, children spontaneously and proudly brought the activities back to school to show their teachers what their mothers had made for them. Children were delighted to perform at school tasks similar to those which their mothers had taught them at home.

Training disadvantaged mothers as preschool teachers. In the fall of 1968, a second project was begun in which teachers trained the mothers of young disadvantaged children to serve as preschool teachers. The benefits from this phase of the research program were seen in broader terms than altered family attitudes or improved school achievement. Hiring (while training) personnel indigenous to disadvantaged neighborhoods not only provides the educational program needed for the disadvantaged child but also provides employment for people living in the target areas. Indigenous personnel in positions of respect and authority can intensify the impact of educational programs in poverty areas. Finally, sufficient professional personnel simply do not exist to carry out the educational aspects of the war on poverty.

The paraprofessionals in this project, three young Negro mothers, had no previous teaching experience and no education beyond high school. The paraprofessional who was later rated the most effective teacher had terminated her education at the eighth grade. These three women worked under the general supervision of a teacher and under her particular supervision during a lesson planning session before class began and an evaluation session after class was dismissed. Although the supervising teacher assumed the responsibility for the overall program and for the specific lesson plans to be used in implementing the structured curricula developed by professional teachers (Karnes, et al., 1968b; Karnes, 1968), the paraprofessional did all teaching. Concepts unfamiliar to the paraprofessional were carefully presented by the supervising teacher before such materials were taught to the children. Role playing was often used to transmit lesson plans, with the professional and the paraprofessional teachers taking turns as pupil and teacher. As might be anticipated, the immediate problems of "discipline" were often discussed during the evaluation periods. The value of well planned lessons at the child's level and the merits of praise and success in preventing discipline problems were stressed.

The supervising teacher evaluated the performance of her paraprofessional staff on a rating scale three times a year and discussed these ratings with the women individually. In addition, since this class was established according to a research design used in earlier studies, the progress of the children taught by supervised paraprofessionals could be compared with that of childern taught by a professional staff. An analysis of the data revealed that both groups made comparable and significant progress in the important areas of intellectual functioning and language development.

Training teenagersas paraprofessional preschool staff. A third project, again involving paraprofessional staff, employed 16 and 17 year old sisters of young disadvantaged children as preschool teachers supervised by a professional teacher. These teenagers were enrolled in a high school work-study program and fulfilled their work commitment at the preschool. The structured curriculum referred to earlier again constituted the instructional program. The professional teacher supplied lesson plans throughout the year. These plans were typed in detail and included wording for statements, questions, encouragement, and praise. Suggestions were included for the handling of the inattentive child or the possible behavior problem. During the preplanning period, the paraprofessional teenagers reviewed the lesson plans for the day and obtained clarification from the professional. Role playing was again used to communicate techniques of instruction. During the first weeks the teacher taught demonstration lessons with each group of children while the teenager observed. Enthusiasm of presentation, involvement of all children in the learning process, methods for presenting and clarifying key concepts and for providing adequate repetition, and the necessity for praise were included in such demonstrations. As time went on, the teenagers began to acquire effective teaching skills.

There were, however, two areas in which the teenagers needed particular support. Their language models were not ideal since they too came from disadvantaged homes. The professional suggested proper model sentences to use when presenting specific content and, to come extent, the teenagers acquired more standard language patterns themselves. The teenagers often lacked adequate background to teach certain concepts, especially in social studies and science. The professional taught these concepts directly to the paraprofessionals before the material was presented to the children.

Teenage paraprofessionals presented problems which the supervising teacher had not encountered in the program which employed mothers as paraprofessional teachers. The school schedules of the teenagers often interferred with adequate preplanning and evaluation periods. The commitment to the program shown by teaching mothers was not shared by the teenagers who saw little relevance in this experience to their own occupational future. Their experience with young children was, of course, more limited. The attendance of the teenagers was not as good as that of the older women.

Since this class was also established according to the research design of the earlier studies, the progress of the children taught by the teenage paraprofessional staff could be compared with that of children taught by professional staff. The results of the two groups were essentially comparable on measures of intelligence and language development and both groups made significant progress.

This study has implications for many programs of special education, especially those involving young children. Teenagers can serve effectively as teachers when closely supervised by a professional. Using teenagers to teach in summer programs for the handicapped would have real possibilities since most teenagers are not involved in work-study programs and are not able to spend long periods of time as teachers during the academic year. Such a plan offers possibilities for recruitment of pupils who have the ability and motivation to obtain further education and become professional special educators.

Training teenagers as summer tutors of their preschool siblings. In spite of the qualified endorsement of the teachers who had worked with the older teenage paraprofessionals, a 6 week summer program was begun which again involved teenagers from disadvantaged homes. These young teenagers were 10 to 15 years of age. In this instance, the teenager brought his young sibling (in instances of an extended family he brought his cousin, niece, or nephew) to the preschool for an hour's structured program conducted by experienced teachers. Activities scheduled there were chosen from the structured curriculum previously developed by paraprofessionals. Each teacher worked with three preschool children during this hour, introducing new material and providing a teaching model for the teenagers to observe. She then involved the teenagers in teaching their own sibling or the group of three young children. Take home materials to review and reinforce the activities presented at achool were distributed to the teenager to use in teaching his perschool sibling for an additional hour a day at home. The teenager was paid for the hour at school and for the hour of work at home each day. Teachers made two visits to each home during the 6 week program to help the mother understand the school program and to solicit her support of the teenager's efforts at home.

Pre- and postdata suggest that even this short term study (8 weeks) helped to stimulate the intellectual and language development of the preschool children involved. The value to the teenagers of this program was not evaluated. An interesting followup might determine if the older children become more motivated to learn as a result of their involvement in the program or if they continued to work with their siblings when they were not paid to do so. Similar training programs designed to teach teenagers too young to obtain employment to teach the younger, handicapped siblings would be particularly feasible during the summer months.

Summary

These research projects conducted at the Institute for Research on Exceptional Children, University of Illinois, seem to indicate quite clearly that mothers of disadvantaged children can learn to be effective teachers of their preschool children both in the home and in a preschool setting. Older and younger teenagers present more problems as teachers but can be taught to work effectively with their younger siblings. The research suggests that teachers can serve more children if they have a staff of paraprofessionals who not only relieve them of routine and menial work but actively serve as teachers. It must be recognized, on the other hand, that paraprofessionals need intensive inservice training and sustained supervision to teach effectively. The paraprofessional does not replace the teacher but extends her professional competencies so that more children can be served and so that all children may receive the individual attention they require to develop their potential to the fullest.

The paraprofessionals in these studies were paid to participate in a total family involvement program, but the financing of such a program is not an insurmountable problem in special classes. The government is willing to support innovative programs and currently there are legislative provisions specifically designed to upgrade personnel. In addition, parents and siblings of handicapped children from the middle and upper classes can volunteer their services. Involvement in programs such as these can be intrinsically rewarding to parents and older siblings. Hopefully there are ideas in these programs with the disadvantaged that can be of use to special educators in developing or expanding and revitalizing theri family involvement programs.

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INNOVATION IN THE TRAINING OF TEACHERS OF THE MENTALLY RETARDED:

LEARNING TO CONSTRUCT PROGRAMED INSTRUCTIONAL MIXED MEDIA SEQUENCES

by

James Q. Affleck

There is an increasing realization that teacher effectiveness is in some large measure determined by the ability to set goals in very specific behavioral terms for the children with whom they work. To learn also how to move the child toward such a specific goal in an orderly sequential manner would seem to be an equally valuable skill to acquire.

We have found linear programing to be well within the capability of most teacher trainees in special education at the University of Washington and not a new art form that only a specialist can be expected to master. Therefore, as part of the training program for teachers of the mentally retarded at the University of Washington, students are expected to perpare a programed, mixed media instructional sequence. They are expected also to include a system of quality control and to videotape the final evaluation of the sequence with a learner from the target population who has not taken part in the development of the sequence. Programing essentially is the ordering of the learner's experience supplying a step by step progression to a higher level of functioning, a thing that good teachers have always done and a thing that teachers in training need to learn. Unfortunately, we still have teachers who use the lecture method with retarded students.

The trainee through this project is afforded an extensive practicum experience. He must first stipulate the target population, for instance, this could be simply designated by a mental age level or as adolescent trainable children admitted to public school programs. The identification of entering behaviors lists those skills relevant to the task which must already be mastered in order for the learner to proceed. Necessary physical abilities must also be specified in entering behavior. At this point, the trainee begins working with a retarded student, representative of the target population, and develops frame by frame an instructional sequence leading to the previously designated behavioral objective. This developmental phase of the project usually leads the trainee to work with six or more students. During this phase the trainee comes squarely to grips with the components of the task, the idiosyncracies of individual learning styles, and finally to the commonalities in both. Trainees are warned to think small and inevitably program sequences that were visualized initially as simple progressions eventually emerge as longer and more sophisticated products than anticipated. As the sequence is refined through interaction with an increasing number of representative learners, the number of steps in the sequence usually increases. This occurs in direct proportion to the growing awareness on the trainee's part that gestalts seldom occur in the learning of the mentally retarded and assumptions of knowledge when the steps are too big do not produce a successful learning progression. This may even lead to the repetition of frames to facilitate over learning. The final result is that nothing can be or is taken for granted in this process and the task is eventually broken down to its smallest components. Through this series of confrontations with representatives of the target population, the trainee becomes uniquely aware of and involved with the education of mentally retarded students in an immediate and dramatic mode that could never be duplicated by a professorial lecture. Those trainees working through such a project have been to the mountain and, since this project is part of a course occurring early in the teacher training sequence, any preexisting fantasies about what it is like to teach the mentally retarded are abruptly demolished and early relocation of trainees who find this experience less than they expected is thus possible. Action components or field experiences are built in to all courses in the sequence so that there is a combination of didactic and practicum in all aspects of the training program.

Another aspect of this project is the stipulation that the programed sequence must be mixed media. This facet of the project is based on several contentions. First, there is available a vast array of technological hardware, but the software, especially that appropriate to handicapped learners, has evolved much more slowly. Second, the mentally retarded student needs all of the input options that we can supply. To rely only on teacher talk and textbooks is much less than the best job we can do in instructing these students today. Equipment once considered too expensive for use in the classroom is now within the realm of fiscal possibility, if teachers will only order and use it. This points up the crucial reason for including the use of mixed media in the project. An appalling number of graduate students who have been or are going to be teachers do not know how to thread a movie projector or a tape recorder. What is more, many strenuously resist learning even these relatively simple processes, even though it is a part of teacher certification regulations in most states. A national manufacturer of tape recorders recently analyzed the poor sales record they were having with the public schools. They discovered that the reason teachers were not using the recorders was the inability to operate them and resistance to learning how to do so. Being businessmen, they devised a strategy to increase the sales to the schools. They recruited mentally retarded children, taught them to operate the tape recorders and then had them demonstrate and teach the teachers. Therefore, instruction is given to each trainee in the operation of the tape recorder, movie projector, overhead projector, polaroid camera, movie camera, 8mm cartridge projector, and slide carousel. Projects have ranged from a programed 16mm film and tape sequence teaching the forward somersault to a carousel slide sequence on the driver's manual with synchronized audio tape, and a series of mats with outlines for each utensil; the outlines for individual utensils are omitted one by one until the last frame or mat is blank. Projects have included map reading, change making, measuring of liquids, and identification of articles of clothing among others.

The final aspect of the project is evaluation. In this era of cost accounting, teachers in training must learn to search for indices of effectiveness. This can be quite an informal process. A pretest and post test are required in evaluating each project. A subject representative of the target population who has never worked with the materials before is used. An orientation period is usually called for in order to teach the learner how to learn from programed materials. From this point on, the materials must stand on their own with as little help from the trainee as possible. This final evaluation is videotaped by the trainee.

This project is designed as only one segment in a teacher preparation program. It in no way is designed to indoctrinate the prospective teacher into believing that all materials used with the mentally retarded should be either teacher made or programed. Other approaches such as inquiry training must be in the teacher's instructional repertoire, but through this experience the trainee should become a better consumer of commercially produced materials, able to employ the technology available, sharpen evaluation skills, and move toward an educational philosophy that puts emphasis on mastery rather than the teaching act.

ABSTRACT

MOTHERS' TRAINING PROGRAM: EDUCATIONAL INTERVENTION BY THE MOTHERS OF DISADVANTAGED INFANTS

by

Earladeen D. Badger

This paper describes the first year of a 2 year exploratory study aimed at teaching socially disadvantaged mothers to stimulate the intellectual development of their infants (1 to 2 years of age). Twenty mothers, divided into two groups, met weekly for 2 hours during a 7 month period. They were provided with a sequential program of educational toys and materials and instructed in principles of teaching which emphasized positive reinforcement. The groups were small in order to facilitate discussion and attitude change through the mothers' interaction with each other. The two part emphasis of the program recognized the needs of the infant and the mother. Monthly home visits, and more often when indicated, provided professional help as well as corrective feedback on the principles of teaching presented in meetings.

Subjective evaluations of the first year's results suggest that similar programs should be developed whereever social deprivation exists, as an effective and practical method of preventing learning deficits in children and as a means of fostering dignity and worth in mothers through self help.

NEW TRENDS IN A COORDINATED APPROACH FOR VOCATIONAL EDUCATION AND INSCHOOL REHABILITATION OF HANDICAPPED CHILDREN

by

Elizabeth M. Goodman

With the passage of the Vocational Education Amendments of 1968 (PL 90-576), we have entered a new era in the education of the handicapped. Not only does this Act define the term "handicapped" and earmark a portion of the allotment for the vocational education of the handicapped, but it also establishes a basic educational principle as far as vocational education is concerned. Congress has been increasingly concerned over the large number of youth who have left school before being prepared to earn a living. In passing this Act Congress in essence said that every child has the right to an opportunity to be trained for work. Goals in vocational education have been expanded not only to prepare youngsters for the labor market, but to help develop human resourses to their optimum potential.

This new philosophy of vocational preparation is perceived as a total school responsibility based on the following assumptions:

1. Vocational education should be the right of every child who can profit by it. The school should have the responsibility of providing for it within the curriculum.
2. Vocational education should be a continuous process from early childhood throughout life.
3. Vocational education should be the responsibility of the schools and should not be limited to a single discipline or department.

We now see efforts of this trend appearing in comprehensive high schools with prevocational experiences in the feeder junior high schools.

Why has not more been done up to now for the handicapped under the vocational education system?

Previous vocational education has been limited to special occupational categories, with the emphasis on training manpower to meet the skilled or semi-skilled needs of employers. It was occupationally oriented. It tended, with some exceptions, to exclude the handicapped an unfit candidates for training.

The new legislation attempts to adjust to the changing occupational needs due to a shift in the types of jobs for which people are needed in today's economy, and responds to the occupational needs of the less able. The present legislation is "people oriented" and is designed to help the hard to reach and hard to teach. Thus the handicapped has been designated for inclusion in future programs.

The Bureau of Education for the Handicapped has been deeply concerned about the void in vocational education and training which has existed for most handicapped. Since the Bureau's inception over 2 years ago, it has participated in an interdepartmental committee with the Bureau of Adult, Vocational, and Library Programs, the Bureau of Research, and the Rehabilitation Services Administration in order to give leadership and promote efforts toward multifunded activities for vocational preparation of handicapped youngsters.

It recognized the need for agencies at the federal, state, and local levels to plan together. On two occasions through the work of this committee, the US Commissioner of Education and the Administrator of the Rehabilitation Services Administration sent out jointly signed letters to the field encouraging state departments of vocational and special education and the vocational rehabilitation departments along with the respective agencies which they serve to use available resources to hointly meet the need.

It is apparent that for the majority of the handicapped youth an education gap existed between academic education and the readiness for work. After having legislated programs for early childhood assistance for the handicapped, for elementary and secondary education for the handicapped, for teacher training for the handicapped, for research, and for exemplary programs, it is now logical for Congress to authorize help which prepares the handicapped to enter the labor market and contribute to the nation's economy.

The Bureau of Education for the Handicapped, in administering the programs mentioned above, has noted an increasing concern by program recipients for using this support on activities relating to vocational preparation. Programs operating under PL 89-313, which helps children in state supported schools, are using funds for a variety of vocational educational experiences, many of which are being carried on in cooperation with the vocational rehabilitation agency. Dr. James Gallagher, the Bureau's head, has noted that and I quote:

> ...in an institution setting the handicapped youngster finds himself in a continuing educational program. He does not face the artificial breaks that occur in public school programs when the youngster moves from elementary school to junior high school to senior high school. As a result, the State supported institution is in a position to seriously take on a commitment to prepare the youngster for the working world. In the public school, with divided administration at these various levels, it is easy to let a handicapped youngster slip away.

The House of Representatives' Committee on Education and Labor, according to the report which accompanied its legislation, expressed the intention that young handicapped people be provided the same opportunities for vocational training which have been available to adults under the vocational rehabilitation programs. It expects that vocational educators and personnel involved in vocational rehabilitation "will work together to develop the best possible vocational technical programs for these youngsters."

Congress has outlined some of the objectives of what it expects to be accomplished under the Amendments of 1968. The Committee now expects:

1. That all State vocational education agencies be required to develop jointly with the State special education agency a comprehensive plan providing vocational education for the handicapped and that this plan be coordinated with the general State vocational education plan.

2. That plans for vocational education for the handicapped consider the needs of such persons in day and residential facilities whether public or private.

3. That State plans consider the unique problems of educating handicapped persons in rural and urban communities. It is suggested that the use of regional vocational education centers be considered including regional residential schools for children with low incidence disabilities.

4. That efforts be undertaken in each State to coordinate the activities of vocational education, vocational

> rehabilitation, and special education to insure the continuity and broad use of resources [Senate Report No. 1386, 1968, p. 15].

There have been some outstanding examples of interdepartmental, interagency, and interdisciplinary cooperation and coordination in operating vocational activities for the handicapped in various school systems. This has been especially true in the practice of cooperative agreements between special education and vocational rehabilitation.

Outstanding examples of programs may be found in cities and towns across the country. There are also a few isolated examples where vocational education departments have also become partners in these special training programs for the handicapped, but these are the exception rather than the rule.

It is obvious that the three functions--vocational education, vocational rehabilitation, and special education--must be carefully integrated to carry out their respective and similar goals in relation to the development of the handicapped child for the working world. Congress has recommended that coordinated efforts for planning and development of vocational education be carried on at all levels of government, at the federal, state, and local levels. It has further recommended emphasis on expansion of vocational education from elementary to posthigh school levels, including "development of work attitudes in the early school years to counseling and retraining following high school." It has recommended interagency and interdisciplinary cooperation in providing ancillary services for the handicapped in vocational education programs. Each community has the responsibility for seeking a mechanism whereby this cooperative approach may be put into effect.

As we think about strategies for cooperative effort, we find that Congress, in the Senate Report on Education and Labor accompanying the legislation, has spelled out some of the strategies. It calls for:

1. Coordinated planning efforts at the federal, state and local levels.

2. A curriculum which meets the unique vocational needs of the handicapped.

3. An interagency interdisciplinary approach.

4. A design of vocational education in long range terms, which includes the development of attitudes towards work in the elementary grades and post-secondary counseling and retraining.

5. The appointment on each State Advisory Committee and on the National Advisory Committee of a representative knowledgeable about the special education needs of the handicapped.

In summary, we are talking about planning strategies for an interagency-interdisciplinary approach to vocational training beginning in childhood, becoming concentrated during adolescence, and continuing when needed into adulthood. We are involved in a student oriented approach, using the school as a focal point for coordination of services.

In approaching this cooperative venture, I would recommend three main strategies for carrying out the programs: (a) identifying areas of common concern, (b) identifying sources of funding which can be used for joint funding of vocational activities, and (c) developing exemplary or model programs.

The Strategy of Identifying Common Concerns

One of the first strategies is to identify areas of common concerns in developing a cooperative approach, beginning with children in the elementary school and continuing throughout the secondary levels. Following are examples of these concerns:

1. Identifying the target population to be served.
2. Designing a sequential curriculum, beginning at the elementary levels, which takes into consideration the developmental aspects of career identities, work habits and patterns, and the occupational potential of each handicapped individual.
3. Clarifying the roles of each area of service.
4. Joint planning in utilizing community resources, including the involvement of the business and industrial concerns in coordination of efforts for delivery of services to handicapped individuals.
5. Designing an administrative organizational structure through which cooperative efforts can be channelled.
6. Training of personnel.
7. Efficiently using existing facilities.
8. Determining the relevancy of the vocational preparation for the handicapped in terms of manpower needs in the geographic area in question.
9. Establishing priorities for the research relating to vocational education for the handicapped.

Let us look at the first example.

The target population. According to current statistics, we estimate that there are approximately 10 percent of the total school population, or over 5,000,000 handicapped school aged children, in need of special educational services. It is estimated that less than 40 percent, or only about 1,900,000, in institutions and public and private schools are receiving these services. By area of handicap the breakdown appears in Table 1.

TABLE 1

Percentage of Children in Each Area of Handicap and Percentage Being Served

Area of handicap	Percentage of all children	Percentage of each handicapped area being served
Speech impaired	3.5	54
Mentally retarded	2.3	45
Emotionally disturbed	.2	11
Specific learning disabilities	.1	4
Crippled and other health impaired	.1	56
Hard of hearing	.5	8
Visually impaired	.1	49
Deaf	.075	88

Very little information is available regarding the statistical information by grade level and the number of handicapped enrolled in vocational education courses. From the general picture presently available in special education we can assume that:

1. Most education of the handicapped is presently carried on at the elementary level or in institutions.

2. Some of the above effort is carried on at the junior high school level.

3. Only a minimum of the effort is carried on at the senior high school level.

4. Many secondary handicapped students go into regular educational programs and receive little or no special services to accommodate their special educational needs.

5. Handicapped students who are able to function in regular secondary education in academic courses may need special services to function in vocational courses.

6. Each area of handicap defined in the Act may have unique vocational consideration in preparing the handicapped person for the world of work.

The curriculum. Another area of concern is curriculum development in the area of vocational education of handicapped. Joint planning would reflect the long range vocational objectives. For example, a list of curriculum goals for the handicapped work study programs might appear as follows:

1. To develop attitudes compatible with demands of the world of work.

2. To develop a sense of responsibility for one's own behavior.

3. To develop personal and work habits acceptable to the world of work.

4. To develop enough emotional maturity to deal with the impersonal relationships in the world of work.

5. To develop the ability to get along with others.

6. To be able to take criticism as well as praise.

7. To develop independence in getting to and from work, and in taking care of personal needs.

8. To attain the ability to handle money.

9. To develop realistic career identity.

10. To develop marketable skills.

There are many who advocate that activities relating to the vocational goals have to be taught in a sequential manner to the handicapped beginning in the elementary grades. The handicapped child's experiences are limited and the learning experiences must begin early. Thus many activities and experiences in classroom and community are provided by the system to carry out these goals.

Defining roles. In working out this complex problem of interagency cooperation, each area of service--vocational rehabilitation, vocational education, and special education--has its individual role to perform or differential skill to carry on. Dr. James Gallagher has described the roles of each area as follows:

> Vocational Rehabilitation-- Since this discipline is often the closest of the three to the actual job placement situation it would have much weight to bring to bear on the issue of general program objectives, of continuous vocational evaluation and counseling, and job market applicability. They can provide feedback on program effectiveness since performance on the job must be one of the essential outputs of a work-study or vocational program.
>
> Vocational Education--This discipline can bring to the team its planning and special instructional skills related to general vocational education planning. An invaluable contribution it can make is the utilization of its techniques for the handicapped with the aid of special services in fitting the handicapped into the regular vocational program, since it should not be imagined that handicapped persons will always be removed from the regular vocational education program. Vocational education can provide specific instructions in occupational areas designed especially for the handicapped.
>
> Special Education--This discipline has as its major contribution a sense of continuity and programming rlated to the total educational program of the handicapped child. It also has special abilities to sequence instructional activities individually or in small groups. In the case of those handicapped youngsters under special education programs, the special educators have the final responsibility of the total design of the educational program so that it meets not only the work study needs, but other necessary educational and social goals as well.

He went on to state that any program in the area of vocational education for the handicapped which does not include meaningful components from all three of these disciplines will be the poorer for their lack.

The Strategy of Identifying Sources of Support

It is obvious that to implement this program in vocational education, a variety of sources of support and resources must be blended together using multifunding appraoches wherever possible. What resources does the Bureau of Education for the Handicapped have and what can it do to encourage constructive cooperative activities among the three areas of vocational education, rehabiliation, and special education? The Bureau has three operating divisions representing a broad spectrum of activities in the field of education of handicapped children. These have been described in various issues of the CEC journal, Exceptional Children. The Office of Program Planning and Evaluation, which is part of the Associate Commissioner's office, serves to study and evaluate these programs and is a point for program coordination. Its recent publication gives information on all programs within the Office of Education which benefit the handicapped. The Bureau uses this information in assisting its grantees with multifunding approaches.

The Strategy of Establishing Model Programs

After evaluating your needs, you may wish to establish a few carefully conceived exemplary programs which reflect a cooperative approach. With federal appropriations still falling short of the authorization, it may be more efficient at this time to use the new vocational education program to develop a model, which, if successful, could be replicated.

Research and demonstration is one avenue for developing a mechanism. Several jointly funded research programs already underway have been funded cooperatively by the Bureau of Education for the Handicapped, the Rehabilitation Services Administration, or the Division of Vocational Education Research. For example, last summer I participated in an interesting 2 week training institute funded by the Office of Education at Ohio State University. The institute was seeking approaches for the joint training of vocational education and special education teachers for vocational education of the mentally retarded. Twenty-five communities had been invited to send teams of teacher to this workshop. This research project pointed up the need to develop a better communication system between special education and vocational education.

Conclusions

The task before you is not simple, but it is a challenging one. In many instances it may not take new funding to put to good use the 10 percent allotment to the states but, rather, a redirection of existing funding. Each of you is being asked to redistribute your own energies to make available some time for cooperative effort. Special educators are probably skilled in the education field in interdisciplinary cooperation. Whether we are in a local, state, federal, public, or private agency, we can take an effective place on the interdisciplinary, interagency team to promote vocational education and training for the handicapped population.

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TRAINING MOTHERS AS TEACHERS IN A PRESCHOOL FOR DISADVANTAGED CHILDREN

by

Catharine C. Sprugel

There is a movement to establish a new entry level to old careers in the human services--an entry level at which the economically and educationally disadvantaged person may make a greater contribution to society and, at the same time, gain a better self concept through active participation in work on a higher level. There is no longer any doubt that mothers from the target area can successfully participate in their community preschools through performing clerical, monitorial, and routine tasks. Throughout the country these mothers are serving as teacher aides; they take attendance, serve snacks, and prepare materials for instruction. These mothers have, however, remained on the periphery of the educational process and rarely have been employed for actual teaching in the classroom.

Training while employing mothers from poverty neighborhoods as preschool teachers may have wide and important implications:

1. The status and prestige dimensions of her role as teacher would give the mother from the disadvantaged community a feeling of accomplishment and worth. The members of her family would view her and themselves in a more favorable light because of her elevated role. The entire family might develop a more positive attitude toward school.
2. More teachers are needed in classrooms for preschool disadvantaged children. Lower teacher-pupil ratios (ratios as low as 1:5) are needed if these children are to be given the individual help necessary to overcome their deficits in language development. The cost of hiring this number of professional teachers might be prohibitive whereas the salaries of paraprofessional teachers might be less.
3. Teachers who are highly motivated to work with disadvantaged children are needed. Mothers would feel a personal concern in helping these children to succeed because of their recognition of the problems their own children face in school.
4. There is a need for a closer relationship between a middle class professional and the parents of disadvantaged children. It is important that they work together and understand each other's aims, attitudes, and problems if they are to do what is best for the children. Mothers of these children are in a unique position to understand both views and to serve as a "communication bridge." They can help the professional teacher gain insight into the parents' problems, and together they can encourage the parents to work with them for the good of the child.
5. Shy, withdrawn children might make a better adjustment with teachers who more closely resemble their mothers in looks and actions.
6. There is a need for indigenous leadership to be developed in the low socioeconomic community.

A research project was set up at the University of Illinois to study the feasibility of on the job training of mothers from the target area to teach in a preschool class for disadvantaged children. This project was conducted during the last school year (1967-69) under the direction of Dr. Merle Karnes with the support of the US Office of Education.

Before I describe the selection and training of the mothers I would like to characterize the particular preschool in which they were to teach. The curricula and teaching strategies had been developed in an earlier research project.

Each preschool class (N=16) was divided into three groups on the basis of Binet IQ scores with one teacher for each group, a teacher-pupil ration of 1:5. Groupings were flexible, however, so that children needing extra supervision or instruction could be somewhat evenly distributed or that children who did not perform according to test indications might be more appropriately placed. Teachers were given the results of the Binet Intelligence Test, the Frostig Test of Visual Perception, and the Illinois Test of Psycholinguistic Abilities and were instructed to accommodate their teaching to the perfromance of the children on these instruments. These tests were also given at the end of the preschool year to measure the children's progress and to compare with similar groups.

Typically three structured periods of about 25 minutes each were run each day. The remaining time was given to a greeting period, music, juice, and directed play. The children attended for 2 hours and 15 minutes. The three structured periods were allotted to math concepts, reading readiness, and social studies-science, with an emphasis at all times on vocabulary and language development. During the course of the day each teacher would have taught her five children lessons in all three content areas. She would also have her own children with her during juice time as there are many opportunities for language to be developed during this activity. In small group instruction children have more opportunities for verbalization, and the shy or withdrawn child cannot be overlooked. The teacher can provide careful supervision and individual help, and immediate feedback can be given to the children on their performance.

Three rooms were used, a large room in which all the children can gather for group activities and two relatively small rooms. Each teacher moves from room to room with her group of five children rather than relying on one large nursery room for all activities. Each of the rooms has materials appropriate to the curriculum area taught in that room.

As you can see, the mothers who participated in this training-teaching program were asked to assume the roles of responsible, active teachers. They were expected to understand important aspects of test profiles and to implement detailed sequential curricula.

Methods and Procedures

To locate mothers from the target area who might be interested in participating in such a preschool program we consulted someone who lived in that area and whose opinion we had learned to respect, our children's bus supervisor. She was an active participant in community affairs and well acquainted with many mothers. The three mothers she recommended were interviewed and hired by our director. Important hiring criteria were a mother's desire to work with 4 year old children, her previous experience with young children, and qualities essential in a teacher: emotional stability, intelligence, warmth, flexibility, empathy, and a sense of responsibility. Two of the mothers had completed their high school education. One had finished 3 years of high school. Mothers were paid $2.00 an hour for 4 hours a day, which included the time spent for planning and evaluation as well as teaching.

We were particularly fortunate in the selection of the head teacher for the project. She was a person who had high standards of performance for both teachers and children but was willing to delegate responsibility. She was sensitive in her relationship with others and was given to spontaneous laughter. She understood group dynamics and was anxious to practice its theories.

A period of pretraining was impossible because the mothers were hired just prior to the opening of school. The head teacher realized that it was of utmost importance that the mothers have a successful first day, so she carefully planned for that day. During the planning period the teachers were given a brief description of the dual purpose of this preschool project: to help preschool children from disadvantaged homes to have adequate preparation for success in elementary school, and to explore the effectiveness of having mothers from the same area as teachers. The head teacher made the mothers feel that the success of the program was dependent on their endeavors, attitudes, and how well they all worked together. She presented the program as an exciting challenge to them all. She went over the daily schedule, and identified those tasks which she would performaand those which would be performed by the mothers. During the large group activities they were to observe or assist in specific ways. She went over the lesson plans for the three content areas step by step. The vocabulary used in the directions was such that it could be easily understood. The plans were written out so that the mothers would have them for quick reference while teaching. After discussing these plans, the head teacher and mothers took turns being the teacher and the pupils for each activity. The lessons were only 10 minutes long the first day so there would be no need for the mothers to improvise and less chance of their having to handle discipline porblems due to children's restlessness.

The head teacher took the leadership throughout the day during the large group activities. She demonstrated how to handle discipline problems in a constructive rather than a punitive way. This is an important aspect of training since an untrained teacher often finds the symptoms of distress hard to understand and tolerate. Her angry response may only push the symptoms down deeper in the child.

The head teacher stayed with each mother throughout one structured period to observe the strengths and weaknesses of each mother and the individual children in her group. Her observations were supportive, not hypercritical.

After dismissal of the children the head teacher and mothers relaxed over a cup of coffee and laughed together over the comical situations of the morning. The rapport established during these periods of planning and evaluation was a contributing factor to the success of the program throughout the year. The mothers were encouraged to tell how their children performed in the lessons and what tasks needed to be repeated. There was discussion of how they had handled behavior problems within their groups. Suggestions for improvement of their techniques for the following day's structured periods were gone over carefully. Role playing was discovered to be the best technique for transmitting lesson plans to paraprofessionals.

The head teacher was enthusiastic over the performance of the mothers on their first day. She knew it had taken courage for them to teach the lessons, and she praised them warmly. They may have had reservations about their own effectiveness, but they were pleased and surprised that they could actually teach.

During the first weeks the head teacher made all the lesson plans in great detail. She continued to go through the plans slowly and carefully, making sure the mothers understood each step. They acted out every lesson before teaching it. The head teacher led all activities (greeting, structured play) except the three structured periods during which the mothers did all teaching. In other words, the three curricula (math, language development/reading-readiness, and science/social studies) were implemented solely by the mother-teachers. They took turns sharing with the head teacher the leadership of the large group activities. They also were asked to take notes on their children's performance during lessons. Note taking was accomplished while the children were participating in large group activities. It is important that this time be provided as soon as possible after each teaching session so that the observation will be specific and accurate. This practice elevated the level of teaching as the mothers were able to include in their followup activities more precise remedial plans for individual children. Some of the postplanning time w s now set aside for discussion of more than immediate topics. The head teacher encouraged the mothers to talk freely of the problems of the people in the target area. She learned to appreciate the attitudes and frustrations of the poor, and particularly the problems of the families whose children attended the preschool. She guided the mothers in relating these discussions to ways they could improve their teaching and help the parents.

By the middle of the 9 month project a great deal of growth had been shown in the performance of the mothers as teachers. Many of the teaching techniques and general approaches to lessons had been assimilated. Frequent demonstrations of lessons in all three content areas had been given to each teacher. The head teacher had continued to spend one class period a day with each mother and had given concrete suggestions for improvement of her instruction. She had demonstrated proper child motivating techniques as the occasion occurred during lesson times. She soon noticed the mothers were adopting her techniques and adapting them to their own teaching styles. Each mother had a different teaching style which began to emerge even in the first few days of the project. The professional tried to guide the paraprofessionals without destroying their unique styles. As Reissman (1965) says:

> Nonprofessionals are all types. Some are earthy, some are tough, some are angry, some are surprisingly articulate. Therefore, the professional should build on their basic types and not try to remake them to her image. If a nonprofessional is pretending his role, the students soon discover it, no matter what their age. Nonprofessionals will incorporate the intelligence based on their history with the new knowledge based on their training. It is not unusual to find a nonprofessional who has imaginatively combined these two levels and is remarkably effective in dealing with problems at various levels [Paraphrased from Reissman].

These mothers were not unique in needing to face the following problem: teachers often talk too much! When the tape recorder was used in class for language development with the children, the mothers noticed that they were talking during much of the lesson. Through listening to tapes, they were able to learn to talk less and to encourage the children to talk more.

A great deal of growth had taken place during the planning and evaluation sessions. Mothers began to suggest additions and amplifications for lesson plans on their own. The professional incorporated such suggestions and encouraged original lesson plans but did not make them a requirement. She discontinued discussing each lesson step by step and role playing each activity. Instead, each mother was handed a sheet with the lesson plans for the day. The plans were studied for any needed clarification. The mothers were now secure enough to question practices and plans of the professional. Discipline was the subject of many planning periods. Metzner and Newman (1968) said, "Discipline problems can only be overcome by rapport between the teacher and the aide, leading to mutual understanding regarding and handling of classroom problems."

The professional took many opportunities to model proper discipline methods because this concept was difficult to impart to these paraprofessionals. However, in general they were very successful in relationships with the children. They were Negro, and most of the children were Negro. They communicated easily with the children. One of the responsibilities of the head teacher was to visit each child's home. The mothers asked to accompany her on these visits, and their presence proved valuable in establishing a friendly, informal basis for discussion.

The highly structured curriculum followed in this project presented two difficult areas. The paraprofessionals had little elementary science and nature study knowledge. The names of less common animals or the specifics of plant growth were unfamiliar to them, and they often expressed a desire for the professional to teach the science period when the lesson plan revolved around a generalized discussion or an experiment. A second difficult area was the use of the teacher as a language model. The educationally disadvantaged paraprofessional often provided an unsuitable model.

The mothers responded more positively to lessons where results of teaching were more easily observed, such as counting, matching, and labeling objects. Since our highly structured curriculum had many lessons of this type, it was a very appropriate vehicle for training paraprofessionals as teachers.

Near the end of the project the mothers assumed the direction of group activities. Two of them were interested in handling the music lesson. During the last few months of the project the head teacher was able to be absent from the classroom for realtively long periods. She felt confident that the teachers could handle with facility any problems that arose. She was able to be gone for several days, leaving the mothers in complete charge of the project in the last month. They planned and carried out their own lesson plans and large group activities.

Evaluation

The head teacher evaluated the mothers three times during the school year as to their relationships with the children and the head teacher, their grasp of the program, their role as a teacher, and their commitment to the job and program. These evaluations helped her to see the overall needs of the mothers in contrast to the specific problems faced each day in relation to lesson planning or the handling of immediate discipline problems. All three mothers were rated above average in their overall performance as preschool teachers at the end of the project.

The mothers were asked to give their opinions of the strengths and weaknesses of the program as a teaching model to be used in other preschools. They made the following observations:

1. The head teacher's fine relationship with them had been one of the greatest strengths of the program. She had been at all times warm, supportive, and completely understanding of their problems. She had given guidance when necessary but had at the same time shown confidence in their ability to make wise decisions.
2. They were appreciative that the initial teaching lessons were brief.
3. They felt that the classroom responsibilities were evenly distributed.
4. They would have been glad to do more of the routine duties, such as preparation of snacks.
5. There was a need for pretraining before classes began.
6. More opportunity to observe good teaching should have been given before they assumed the responsibility of teaching.
7. Two of them wished they had been given opportunities for leadership earlier in

the year; they felt they could have handled it.

Each of the mothers volunteered the information that she was proud of her role as teacher. Two mothers had overheard their children brag to their friends that their mother was a teacher.

Further evaluation of the program was made by the director and head teacher. They agreed that the inservice training program given the mothers was effective and was a suitable model for other preschools: they daily planning sessions, demonstrations, and evaluating sessions were essential parts of a teacher training program. But, they also recognized the need for pretraining to give the mothers a more thorough preparation for their responsibilities. They would then have had a clearer understanding of thepurpose of the program, the role of the teacher, and further acquaintance with curriculum content and the materials of instruction and their appropriate use. They made other suggestions for improvement of such a program:

1. Wide publicity through local newspapers and radio stations should be given so that more candidates would have the opportunity to apply for positions on this level.
2. Established carryover positions should be available for those who are trained.

A statistical analysis of the children's growth as measured by the testing instruments mentioned earlier is now in progress.

The conclusions reached from our evaluation of this research program are that, with proper leadership, mothers from poverty neighborhoods can be successfully trained as teachers in preschools for disadvantaged children, and that their involvement in this role is highly beneficial to themselves and the children.

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ABSTRACT

THE USE OF VIDEOTAPES IN THE INSTRUCTION OF SPECIAL EDUCATION ADMINISTRATORS

by

Thomas David Marro

The three teaching techniques described in this paper were developed through the medium of a videotape recorder. This equipment marketed by several companies is now portable and rather inexpensive.

Some of the tapes involve role playing, which is well established as a technique by which students derive some degree of insight. These tapes may be used to augment regular course work, simulation procedures, seminars, and individual instruction. Their use and development is limited only by the creativity of the instructor and students involved.

ABSTRACT

THE UTILIZATION OF THE FIELD EXPERIENCE IN THE PREPARATION OF SPECIAL EDUCATION ADMINISTRATORS

by

Charles E. Henley

I would like to discuss with you the utilization of the field experience in the preparation of special education administrators. Although internship is the term used in referring to the major field experience, there are additional types of placements which are also important and which are being utilized across the country today. I am, therefore, using the term field placement or field experience as a global term, covering all types and lengths of formalized placement os students within direct service programs as a part of their university preparation programs.

The field placement has been accepted as an appropriate type of educational experience for the preparation of administrators of special education programs. Of the 17 colleges and universities operating programs designed to prepare special education administrators and supported by the grant program of the US Office of Education, all employ field placement as a part of their preparation programs (Henley, 1969). This is not to say, however, that there is universal agreement with regard to the specifics of this aspect of the program. The situation is, in fact, similar to a description of the educational administration internship training program some 12 years ago when it was stated:

> Some interns are paid quite well while some are not paid at all. The internship may last for two years or a few months. In some cases it is a full time job and in others it is a half time job or less. Graduate credit may run from none to 16 units. There are few descriptions of what the intern actually does. He may be supervised by the University or by the Cooperating Administrator or by both (Unruh, 1957).

If our situation in special education administration preparation programs is less chaotic, it is because we have profited somewhat from the work of educational administration in the development of the field placement concept in education.

TEACHER EDUCATION

THE ROLE OF THE TEACHER PENDING DISCHARGE OF THE EH STUDENT

by

Barbara Laier

The teacher's responsibility for her EH students should not become extinct the moment the child is discharged from her program. The next few months are really the most critical as to whether that student is going to be able to succeed in a normal classroom situation for the rest of his school years.

Therefore, prior to discharge, the teacher should have been in personal contact with the principal of the receiving school. This session should involve a mutual decision between the principal and the teacher as to what type of teacher might be the most successful in integrating the EH child back to the regular classroom. The principal would then arrange for a conference between the receiving teacher and the sending teacher.

This first conference period should involve a review of the type of tasks, structure, and rewards that have proven successful with this student during his time in the special day class. Samples of his work should be shown, with special consideration being given to the student's average attention span. Quite often I have found the regular classroom teacher to assume that the reentering EH child is automatically able to accomplish the same quantity and quality of tasks that his peers are doing (otherwise he wouldn't be back in the regular classroom). This is generally not possible, nor should be expected, at first.

The sending teacher should also be prepared to give the receiving teacher some specific behavioral goals that need consistant reinforcing and some specific behavioral goals that need to be developed further with this student. It should be emphasized that even with reentry into the regular classroom, the receiving teacher should initially concentrate on making it possible for the child to exhibit appropriate behaviors--instead of emphasizing the development of new concepts in the academic areas. This transition period is when the student has to assure himself that he can function behaviorally and academically with his classmates. One must remember that the reentering EH student is very apprehensive about his own abilities for success in that same environment that had for many years produced nothing but frustration and failure.

The receiving teacher should then be willing to have another conference with the sending teacher at the end of two weeks. This should occur every two weeks for the first two months, then every month for the next six months. The student should then have a year end evaluation (approximately ten months) by the principal, teacher, and psychologist of the receiving school and the teacher of the sending school. The same considerations should then be given to the child's next placement in the regular classroom; and the sending teacher in that school should be prepared to give the same kinds of information and guidance to the student's new teacher. The sending teacher and receiving teacher should also arrange interval conferences for the evaluation of that student's progress in the next year period. The EH child that has spent time in a special day class should have a minimum of a three year followthrough once he has been admitted to a regular classroom environment, otherwise the prognosis for success is lessened considerably.

During the initial conference periods between the special day class teacher and the receiving teacher, student interventions should be thoroughly discussed and understood. In preparation for this, one must be cognizant of the educational development of students in general. Much of the following has been derived from the hierarchies of Bloom and Hewitt.

The most sophisticated level is that of gaining knowledge for the sake of knowledge alone. The majority of adults are not even functioning at this level. In the classroom environment we can consider the level of mastery to be synonymous with the first. In other words, if the student is working appropriately at his desk on an academic task, we can say he is functioning at the mastery level.

Now let us assume that the teacher notices some behaviors which indicate the need for an intervention at this level. Some of those behaviors might be frequent eye contact on anything but the task itself, feet shuffling, body fidgeting, chair movement, pencil tapping, or nondirected pencil movement on the page. The teacher may do one of three things (a) go to the student and adapt or shorten the mastery task at his desk, (b) move him to an area with less stimulus, i.e. an isolation booth or an area with two or three sides blocked, and have him complete his task there, or (c) move him to the isolated area and adapt his task assignment.

A step lower on the educational hierarchy is the social level. A student able to function at this level will be able to do a task simply because he was told to do so by his teacher, or because his peers are doing it and he feels as if he should in order to be part of the group, or because his parents or teacher will praise him or intimate being pleased if he does it well. An intervention on a social level might involve restructuring a task verbally or making a positive comment about anything the student may be doing appropriately.

The next level of sophistication is the ability to explore and manipulate the environment. An intervention at this level would be to move the student to an area containing animals, plants, and scientific equipment or materials that will allow for experimentation. The student should be given a specific task assignment in that area.

The same procedure is followed when intervening on the next level which is direction following, sequential development, or visual-motor perception activities. The student is moved and an appropriate task is selected for him to work on. It is the teacher's job to decide how long a student needs to work in any of these areas.

The last two levels can be dealt with simultaneously or separately--the first being to get the child to appropriately respond to the teacher. Intervention at this level should be short and quick. Some might include (a) send the student to get a drink of water, (b) go to the student and ask him to take out a certain crayon and write his name at the top of his paper, and (c) structure any simple directional activity that will guarantee an appropriate response.

The lowest level of sophistication is getting the child to attend. An immediate intervention at this level when the student begins to exhibit any of these inappropriate behaviors previously mentioned often will be enough to direct the student back to his mastery task. A teacher might (a) work with the student on a one to one tutorial basis for a minute or more, (b) play one or two quick games of tic tac toe on the edge of the paper with the student (few words are necessary), or (c) give the student various types of manipulative objects to use while completing his task, i.e. felt tip pens, dymo labeler, link letters, or link numbers.

Every teacher, regardless of whether he is a special education teacher or a regular classroom teacher, should be familiar with these levels of educational tasks and the areas that each of her students needs to work. With this in mind, the teacher can manipulate the environment to provide the greatest amount of success for each student.